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JANUARY, 1950

American Engineer

IN THIS ISSUE . . .

Man's Fundamental Right:
TO BE LET ALONE

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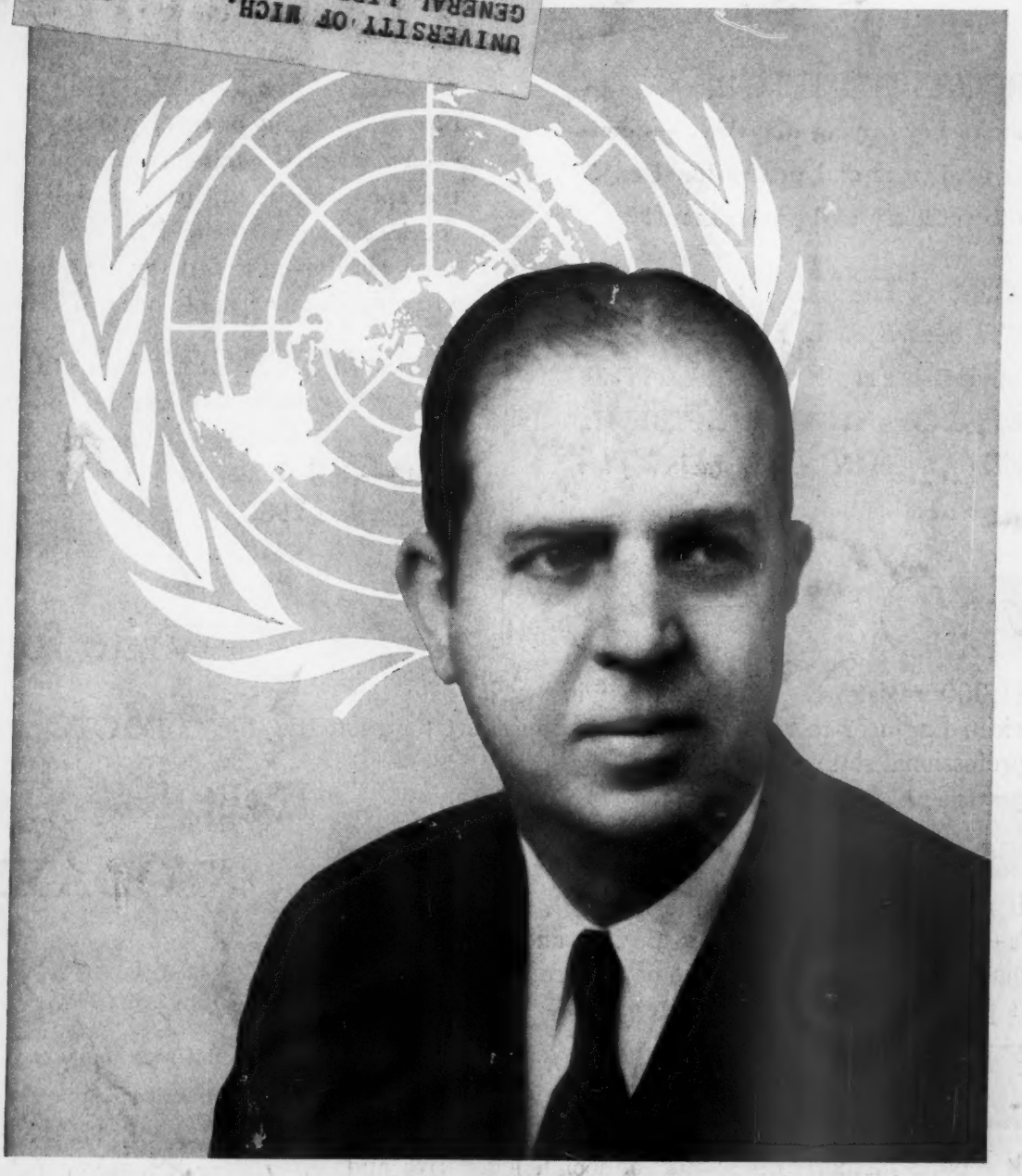

DAVID A. SIMMONS
Human Rights, The United Nations, and You

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American Engineer

JANUARY 1950

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NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS FOUNDED 1934

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"If humanity is to receive the complete benefit of the engineer's work, then the engineer himself must assume some interest and responsibility for seeing that the full productive capacity of his accomplishments is utilized most effectively for the welfare of humanity."

WILLIAM E. WICKENDEN,
Former President,
Case Institute of Technology

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EDITORIALS

Atoms and Engineers

The resignation of David E. Lilienthal as Chairman of the Atomic Energy Commission has been accepted with reluctance by the President. This reluctance was well understood by many of varied political faiths for David Lilienthal is a man to be commended for a job well done under particularly trying circumstances. His replacement, therefore, becomes a problem of great proportions.

Atomic energy development in the United States is largely a matter of increased scientific and technical knowledge. That the engineering profession is the hub of this wheel of expansion can scarcely be denied. Taking cognizance of this, the President will be amiss if he does not weigh heavily the possibility of appointing an engineer to this responsible position. As attested by the accomplishments of engineers in both private and public business, the profession possesses many capable of directing the Commission's efforts.

Competitive Bidding

The relatively new Federal Property and Administrative Services Act of 1949 authorizes the General Services Administration to enter into contracts for personal and professional services without the requirement for competitive bids. That is an important step in the right direction and in line with NSPE's stand in strong opposition to competitive bidding for professional engineering services. Of even greater significance is the authorization for the General Services Administration to delegate this authority to other federal agencies. This could be the opening step to finally eliminate the obnoxious competitive bidding practice from all federal departments. Some within the federal organization have in the past used the argument that the law required them to have bids for professional engineering services.

In response to specific request, NSPE has now received an official communication from the Acting Administrator of GSA on this point. It confirms that the authority to proceed without competitive bids for professional services may be delegated to other federal agencies. The remaining qustion concerns the procedure for and the extent of this delegation. The Acting Administrator points out that the President has directed that GSA delegate its authority sparingly and with care. The conclusion of the Acting Administrator is that GSA must therefore review each application and case on its individual merits although it may be possible to delegate authority to negotiate a class of contracts.

The GSA itself may be able to negotiate contracts for other federal agencies and this would eliminate the problem of delegation. Then too, GSA will handle a considerable volume of work requiring professional engineering contracts and there is no reason to believe that they will not utilize the new opportunity to escape the competitive bidding practice.

It will take time to settle the many ramifications of the new law and its application to professional engineering. So far it is a long step forward and if properly applied may go a long way toward solving a vexing problem. State Societies, Chapters, and particularly individual engineers dealing with federal departments, should keep the development in mind and seek to apply it whenever necessary.

Registration By Branch

The District Court of Denver, Colorado has recently upheld a lower court injunction restraining the Colorado registration board from registering engineers by branch of practice. The suit was brought by a Colorado registrant who contended that the law authorized registration as a "professional engineer" only and that the rules of the board to qualify registrants by branch was without legal justification. The Colorado board had stated in its rules that it thought the law would be better administered if registration was by the basic branches of engineering, but at the same time it recognized that such classification would not prevent the practice in other branches if the individual was "fully qualified by education and experience" to practice in the other branches.

The District Court has agreed that the Colorado law does not authorize the classification by branches and further holds that there is no authority in the law permitting the board to publish a roster of registrants, by branch or otherwise. Surely this last deficiency ought to be corrected and the law should be amended to give the Colorado board the same authority as that given other boards to publish regularly a list of those who have registered in the state.

The important question raised by the decision is not whether the Colorado law does or does not authorize registration by branch or practice; that is a matter to be settled within the state lines of Colorado. But it does raise a discussion of long standing: registration as a "professional engineer," or as a "civil, mechanical, electrical, chemical, or mining engineer," plus the numerous other designations used in some states.

The "Model Law," approved by the leading engineering organizations, speaks only of "professional engineers," lending considerable weight to the argument for only one type of registration. The Colorado board and some of the other state boards seem to feel that this overall general classification may open the door for one skilled in one branch to practice in another in which he is not qualified. But the arguments against this procedure outweigh the fear, which is more imaginary than real.

The answer to the engineering profession's problem in this respect is the same as that in law and medicine; lawyers and doctors are registered as such without notation of specialization. It is a matter of common ethics that a professional person will not practice in a situation in which he lacks the necessary qualifications. If he does, the remedy lies in strong disciplinary action within the profession against the offender. The alternative is a crazy-quilt pattern of registration and a further division and splinterization within a profession already beset by an intolerable amount of that evil.

1950 - Happy New Year - 1950

TO THE *Editor* ...

Denounces Article . . .

Dear Editor:

I found the October issue of our magazine crowded with articles of extreme interest to me and enjoyed it throughout, but fail to see how we can advance our public relations by such controversial articles as W. R. Glidden's "An Engineer gazes into his Crystal Ball." Although the AMERICAN ENGINEER and NSPE assumes no responsibility for opinions expressed by contributors whose names identify their articles, surely we can not gain anything by giving over space to his obvious distrust of the present administration, his lack of good taste, and his advocacy of a pantheistic religion in identifying God with Nature.

I believe if we do not screen such articles more carefully we will be involved in infinite numbers of historical, religious and ethical controversies which will dwarf the prime object of our society in the advancement of Professional Engineering.

JOSEPH F. DALEY,
Flushing, New York.

► ***For those who liked Glidden piece, see "To The Editor" in December issue —Editor.***

Cooke Lauded . . .

Dear Editor:

It is inspiring that one of engineer Cooke's background can find the words to frame the thoughts of many of us who have been concerned with the loss to society of our best brains —the demands of professional duties that their services have not been available to their respective communities. We cannot be too busy to be of professional service to our city, county, state or nation on a civic level.

Let us have more articles like that of Morris L. Cooke.

MAURY M. TRAVIS,
Denver, Colorado.

On Patents . . .

Dear Editor:

In past years, engineers have been faced by demands to sign patent agreements as a condition to their employment. This condition is particularly prevalent in the field of industrial engineering. Most of these agreements bind the engineer so as to discourage his development of healthy ideas as well as acting in restraint of trade. Thus not only does the engineer lose individually but the general welfare loses as a whole. Signing of broad patent agreements should not be made a condition of employment and should be declared unethical from a professional viewpoint. Where agreements might be applicable, the engineer's interests should be protected by personal royalty and control clauses.

Most engineers individually cannot cope with the patent agreement employment condition, however NSPE can take a stand to protect their interests in this connection, thus improving the engineer's, industry's and the general welfare.

CHARLES W. DOHN,
Plainfield, N. J.

► ***Appropriate recognition of engineering developments in patents has for some time been a vexing problem in the profession. To arrive at a general policy applicable to the varying positions under which such results will develop, is extremely difficult. Appropriate committees of NSPE, however, have this matter under study at the present time —Editor.***

Specifying Equipment . . .

Dear Editor:

Signaling, communication and protection equipment, such as manufactured by this Company for schools. hospitals and similar buildings, often seems too high in cost. In tight budgets the result is too often the reduction of the system's efficiency and usefulness; too, often the system is omitted entirely, even to the extent of sacrificing Fire Protection.

Our studies show, however, that most of the jobs where high costs were a factor were those in which *specially* designed products were specified instead of *standard* products; in most cases standard products would have met the essential requirement, or the difference was at least superficial. It has been a habit of many years for the specifier to look upon our class of product as something that could be "tailor-made" to fit his own particular preference as to detail of shape, design, size, color and function. It has been as much the manufacturer's fault as the specifier's but the current problem is to find a way to educate the specifier to the fact that our product is no different in respect to cost than any other.

The average specifier will go through catalogs of lavatories, for example, and select that which suits his job the best . . . even if he has a personal opinion that all of them could be improved upon. He will recognize immediately that to specify one manufactured to special drawing and specification would put the price out of all reason. It is commonly known that standard mill work is far less costly than that made to order. It is obvious that your refrigerator, television or automobile would cost ten times the current price level if it had to be handmade to special specifications and drawings instead of produced in standard type by modern quantity-production methods.

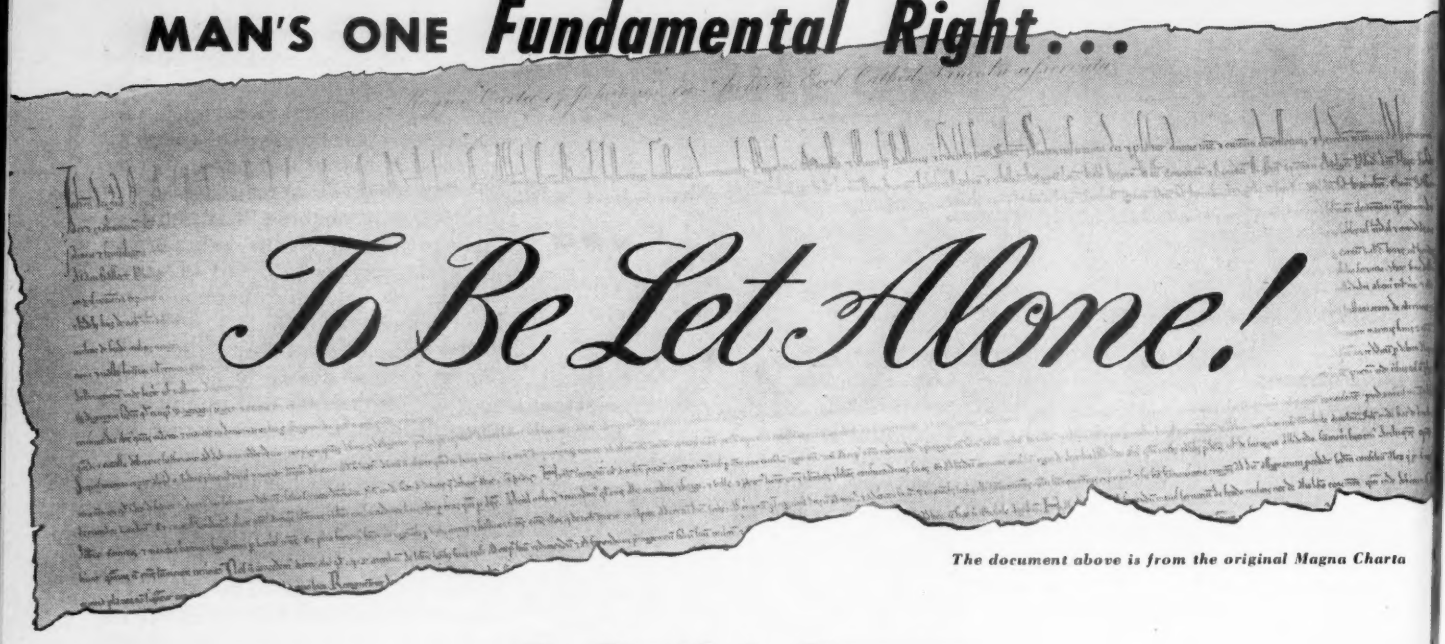
The resultant high price brings serious criticism upon not only the manufacturer but upon all those who have anything to do with specifying or buying the product. In public buildings more of the taxpayer's money is being spent than necessary. In most larger cities the Board of Education, which specifies a standard desk or lavatory, continues the old habit of specifying a specially conceived signaling or protection system at resultant high cost. In endowed projects, the building committee often thinks the convenience must be omitted because of high cost, whereas, it is only a question of installing a standard system at half the cost.

The progressive manufacturer wants to develop each product to the highest point of efficiency and utility . . . and then standardize on it for the lowest possible selling price. We doubt if the average architect or engineer is conscious of the condition we have outlined, and we despair at the time it will take to see all of them and tell the story. Is this not something of enough general interest that your association could lend some assistance in an impartial and objective manner?

R. STAFFORD EDWARDS,
President, Ewards & Co.,
Norwalk, Conn.

MAN'S ONE *Fundamental Right...*

To Be Let Alone!



The document above is from the original Magna Charta

By David A. Simmons

President, American Bar Assoc., 1944-45

Official Consultant, U. S. Delegation to U. N. Conference, San Francisco, 1945

IN THE FALL OF 1944 representatives of the great powers met near Washington, D. C., at an estate called Dumbarton Oaks, and there prepared an instrument later used as the basis for formulating a charter for a world organization. That first document, the Dumbarton Oaks Proposals, made no mention of human rights in its statement of purposes. The only duty in this field which it assigned to such a world organization was to promote "respect" for some undefined human rights.

On the other hand, the final document, the Charter of the United Nations, adopted at San Francisco in 1945, has a number of provisions relating to human rights and fundamental freedoms. To encourage respect for human rights and fundamental freedoms is one of its stated purposes; in the chapters on International Economic and Social Cooperation and on the International Trusteeship System, universal respect for, and observance of, human rights and fundamental freedoms are listed as major objectives; and both the General Assembly and the Economic and Social Council are given the right to make recommendations for the purpose of achieving those objectives. A Commission on Human Rights is expressly provided as one of the agencies of the Economic and Social Council.

Whence did this special emphasis on human rights find its way into the Charter? Former Secretary of State Stettinius, who was chairman of the American delegation at the United Nations conference in San Francisco, and John G. Winant, the first United States member of the Economic and Social Council, both give the credit to the official consultants of the United States delegation. As I had the honor to be one of those consultants, it may not be amiss to add a small footnote to the history of the Charter.

On the afternoon of May 2nd, 1945, I sat down with Judge Joseph M. Proskauer, representing the American Jewish Committee, Dr. James T. Shotwell of the Carnegie Endowment for International Peace, and Dr. O. Frederick Nolde of the Federal Council of Churches, to discuss human rights. Judge Proskauer and I had discussed the matter briefly at one or two earlier sessions, and this afternoon, with Judge Proskauer as the draftsman, a memorandum was drawn up concerning human rights and fundamental freedoms and requesting our delegation to sponsor the inclusion in the Charter of a Commission on Human Rights. When the general consultant group met at five o'clock that afternoon, the matter was explained to them and twenty-one signed the document. Shortly thereafter we met with Secretary Stettinius, who agreed to present the document to the other members of the United States delegation.

On the morning of May 5th Secretary Stettinius, Dean Gildersleeve, and some of their State Department staff again met with the consultants. The Secretary advised that he had submitted the matter of the inclusion of a Commission on Human Rights to the United States delegation, had recommended it, and the others had agreed to it. He had then taken it up with the other members of the Big Four, who had also agreed to it and to its being offered as an amendment. The Secretary stated at that time that if this went through, the twenty-one consultants who had insisted on the proposal were entitled to full credit for putting the important matter of human rights into the Charter.

From Bill of Rights

THE particular rights that had been discussed by the consultants, and those that at least this consultant had in mind, were the ones declared in our Bill of Rights. These include the right to life, liberty and property, equality before the law, immunity from torture and inhuman punishment, presumption of innocence, a fair and open trial, the right to counsel, no ex post facto laws, and, of course, freedom of speech, freedom of religion, and the right of assembly. Our concern was that other people of the globe,

who were subjects with no assertable rights, should be entitled to the same rights which our forefathers attained for us and which, by several wars, we have preserved for ourselves and extended to others.

As stated before, when the Charter was adopted it included and emphasized the subject of human rights and provided for the Commission on Human Rights. That Commission, when set up, in due time reported to the Assembly of the United Nations, and on December 10, 1948, the so-called "Universal Declaration of Human Rights" was adopted. If that document had been entitled "A Declaration of the Rights and Aspirations of Man," we would have little quarrel with it. But when it is called a "Universal Declaration" when it is not a universal declaration, and when it is denominated a declaration of "Human Rights" when it includes not only historic human rights but also invasions of historic human rights and misnamed human rights which, in large measure, are merely present human aspirations, it seems worth while to point out those distinctions.

Rights and aspirations are both fine things, but mixing them in one document and calling them all "rights" only confounds confusion.

There is one fundamental right, and only one. The failure of mankind to recognize that simple fact is the basis for much of the discord and confusion in the world today. What is that right? I shall put it bluntly and in the shortest compass: *The right to be let alone*, or, for those who prefer to have their rights stated negatively: *Freedom from arbitrary interference.*

Let us take a brief look at the important Magna Charta. The heart of it was Chapter 29, which read as follows:

> "No freeman shall be taken or imprisoned or disseized of his freehold or liberties or free customs, or outlawed, or exiled, or in any way destroyed; nor shall we go upon him, nor send upon him, but by the lawful judgment of his peers or by the law of the land."

It was wrested from John, the tyrant king, at Runnymede on the River Thames on June 15, 1215. In my history book I used to read that the barons prepared the charter which they forced the tyrant king to sign. But most of the barons could neither read nor write, and I found on a little research that it was Stephen Langdon, a law-trained priest, who had rallied the barons and undoubtedly wrote the document. John's disregard for the right of his people to be let alone and free from arbitrary governmental interference had been so outrageous that from that day to this no English king has dared take the name of John; and, reign after reign for several hundred years, each king was required to reassure and reaffirm the Great Charter.

OUR Declaration of Independence proclaims the rights to life, liberty and the pursuit of happiness as the fundamental rights of men. The specifications in the Declaration amount to twenty-seven separate indictments against the King of England and his ministers, every one of them alleging interference with the fundamental right of the people and colonies of America *to be let alone* and free from arbitrary interference in their internal affairs by the government of England.

Rights, as we know them, had their beginnings thousands of years ago. When Moses brought the Ten Commandments down from Mount Sinai, he published to his tribe not only commandments against wrong-doing but a proclamation of fundamental rights. Leaving to one side the commandmants relating to deity, let us look at those relating to man: Thou shalt not kill; Thou shalt not steal; Thou shalt not bear false witness; Thou shalt not covet thy neighbor's house, nor his wife, nor his manservant, nor his maid servant, nor his cattle, nor any of his things. In other words, everyone is entitled to be free from arbitrary and unlawful interference with his life and his property.

Four Freedoms

Now, let us look at some current thoughts on rights and freedoms.

Roosevelt's Four Freedoms proclaim:

(1) Freedom of Speech—that is, the right to be let alone and to speak our piece unless we interfere with the equal rights of others.

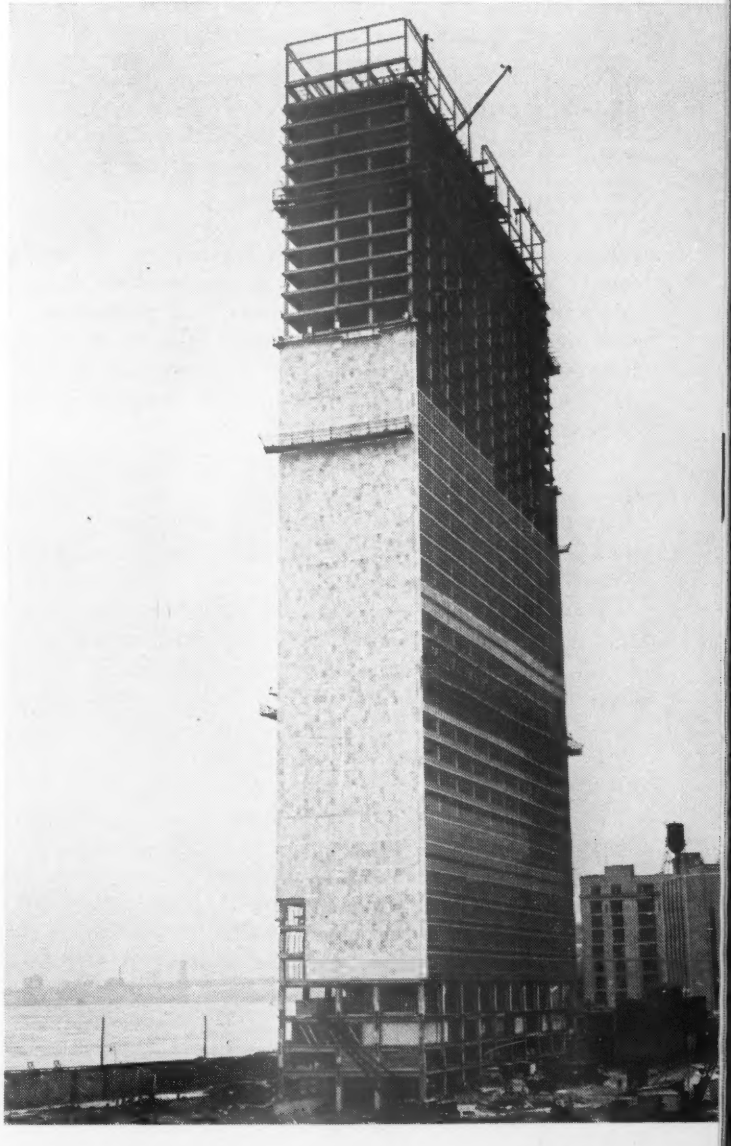
(2) Freedom of the Press—the right to publish what one pleases so long as it does not interfere with the equal rights of others.

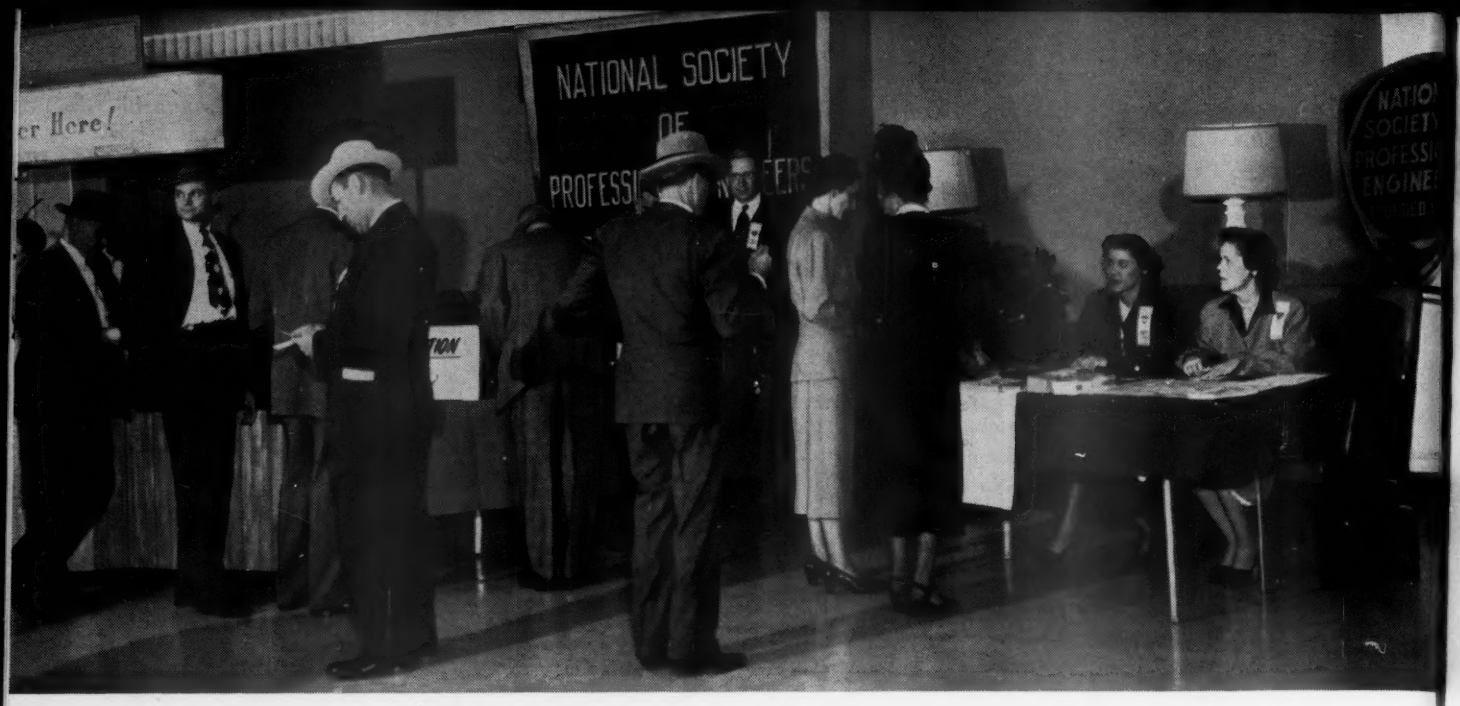
These two "Freedoms" meet perfectly the test of a true right.

Then we come to No. 3, Freedom from Want. In this within the broad scope of the right to be let alone? Is this one of the freedoms that mankind has from arbitrary governmental interference? Obviously not. When our pioneer fathers and mothers sailed the seas and fought their way across the broad prairies of the West, where was there a

(*Continued on page* 24)

Corner-stone for peace. The half completed structure is the first unit of the U. N.'s permanent home in New York City.





Annual Meeting Acclaimed Success

Award to Hoover Feature of Activity-Filled Three-Days

HERBERT HOOVER, former President of the United States and regarded by many as the most distinguished living American, was accorded the National Society of Professional Engineers' greatest honor at the Society's December 1949 convention in Houston.

By proxy, owing to Mr. Hoover's unavoidable absence because of urgent public duty in Washington—a handsomely engraved bronze plaque in appreciation of the ex-President's service to his country and profession—was presented to Mr. Hoover's friend, Jesse H. Jones of Houston, a former Cabinet member and long-time head of the Reconstruction Finance Corporation. This was in accordance with Mr. Hoover's request.

THE presentation was made at the Society's annual banquet in the Crystal Ballroom of the Rice Hotel by President Alan G. Stanford of Atlanta, Ga.

Nearly 1,000 engineers and their wives heard Mr. Stanford refer to Mr. Hoover as "the one living individual who, by his seemingly unlimited energy, best typifies all of the aims and ideals upon which this Society was founded and a champion of all that is best in American citizenship." And tribute was paid to Mr. Jones, too. Said Mr. Stanford:

"We are sorry that Mr. Hoover found it impossible to be with us tonight. However, we are both honored and happy to have with us one of his close personal friends and associates, the Honorable Jesse H. Jones, whom Mr. Hoover requested to serve in his behalf."

The bronze plaque was unveiled in a moment of impressive silence.

Mr. Jones said the inscription on the plaque gave the highest praise that could be given any man: "Tribute to Herbert Hoover—engineer, statesman and humanitarian—for a lifetime of devoted service to his fellow man and the welfare of his country and his profession."

Mr. Hoover was sorry he could not attend the dinner, Mr. Jones added, "but we must recognize that at the request of President Truman he is busily engaged in the all-important responsibility of working out plans for the much-needed reorganization of our federal government.

"His conduct since leaving the White House has earned for him the respect and admiration of all thinking people. I regard Mr. Hoover as our greatest living statesman."

This brief, but impressive ceremony, caught the nation's spotlight and elicited much favorable editorial comment. Said the Houston *Chronicle* in a front page editorial:

"No other group (than the NSPE) can so well evaluate Mr. Hoover's capacity as an engineer, but to the rest of the world the former President has other claims to fame more outstanding than his engineering feats. He is a statesman, philosopher, scholar and patriot."

IN the opinion of some of the NSPE's officers and directors the award to Mr. Hoover may well set a precedent for similar recognition of the worth of distinguished members of the engineering profession in future years.

The Texas Society of Professional Engineers, in a parallel convention to the NSPE, held its Texas dinner for national and state society members on the previous night. This was at the San Jacinto Inn, near the battleground where Texas Independence was won in 1836. The society posthumously honored the late Texas Governor Beauford Jester. The TSPE presented a beautifully executed scroll of appreciation to the Jester family in recognition of Mr. Jester's greatness of vision and unusual recognition of the worth of professional engineers to the state.

The Texas reception of the NSPE on the occasion of its first annual convention in that state, was a subject of frequent praiseworthy comment of visitors to Houston

from all parts of the nation.

"We have come to associate Texas with the biggest and best of everything," Mr. Stanford remarked, if a bit facetiously, "and now as the convention comes to a close we see that this convention was the largest in attendance and the biggest in the interest of its members."

Of the three days devoted to convention affairs, the first day, Thursday, was taken up largely with board of directors' meetings, but was topped off with a cocktail party in the fabulous Shamrock Hotel, attended by more than 700 persons.

The second day was devoted partly to business sessions of the NSPE and TSPE, a noon luncheon at the Rice Hotel, presided over by L. L. Dresser of Tulsa, Okla., vice-president; and addressed by Dr. William V. Houston, president of Houston's Rice Institute and a distinguished physicist and scientist. Dr. Houston advocated four years of arts and sciences as preliminary to engineering specialization.

In the early afternoon of Thursday, the visitors toured the city by bus and saw the Houston Ship Channel and its great industries via a boat trip down the channel to San Jacinto Battleground. Climax of the day was the Texas dinner in the rustic San Jacinto Inn. A fascinating feature of the evening was a surprise procession across the floor, one by one, of a seemingly endless line of beautiful young ladies in attractive pink evening gowns, to an improvised stage at one end of the Inn's main dining room. Actually there were 40 of the "Melody Maids" who entertained with popular songs and melodies.

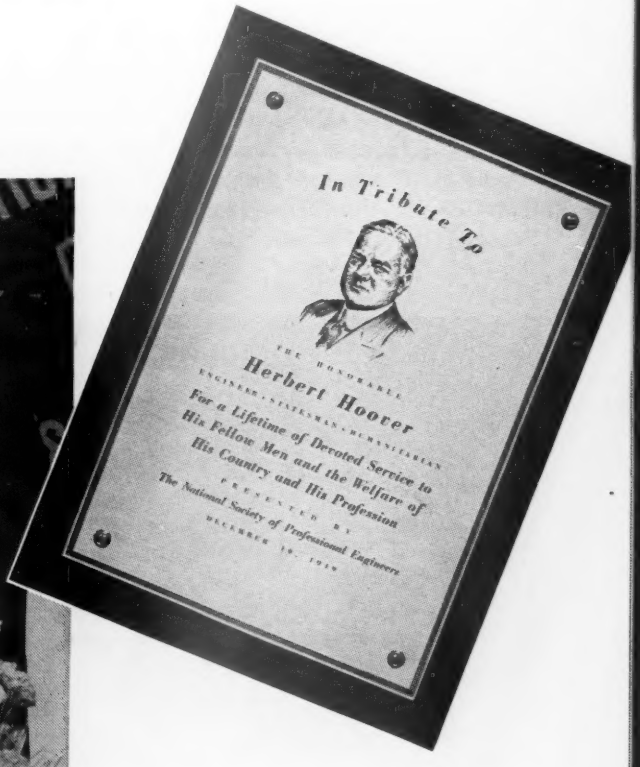
The dinner included a wide variety of seafoods, fried chicken, hot biscuits, salads and the like.

Saturday's sessions were a morning NSPE meeting, a luncheon for both NSPE and TSPE in the Rice Crystal Ballroom, addressed by Rt. Rev. Clinton S. Quin, Episcopal bishop of Texas, on "Character and Competition"; an afternoon session, with addresses by Dr. Arthur A. Smith of the economics faculty of Southern Methodist University, Dallas; and by Dr. Harold Vagtborg of San Antonio, president of the Southwest Research Institute; a cocktail hour for the engineers and their ladies in the South American Room and a final banquet for the Hoover award and an address on "The Universal Declaration of Human Rights," by D. A. Simmons, past president of the American Bar Association. (*Ed. Note*: *See page* 6.)

The ladies' part in the convention included attendance at the entertainment features provided for the men, plus a coffee at Joske's (department store) Garden Room, and a men's style show in the Empire Room of the Rice, sponsored by the ladies.

Ninety-one-year-old Tyra C. Hughes of Tulsa, reputed to be the oldest practicing engineer in U. S., is greeted by Don Kugler, TSPE, member of reception committee.

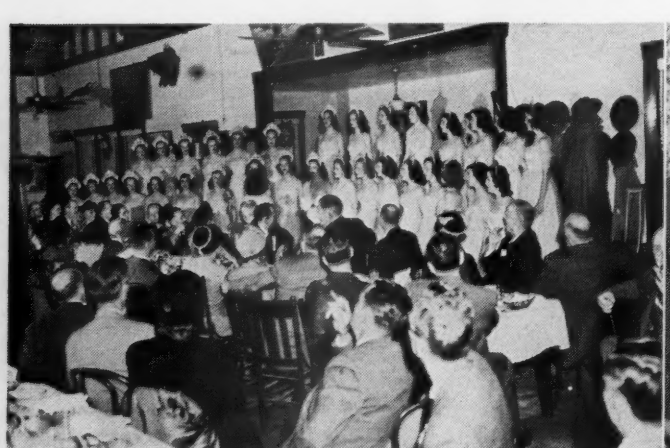
Jesse Jones Receives Hoover Award from NSPE President Stanford.


In Tribute To
Herbert Hoover
For a Lifetime of Devoted Service to
His Fellow Men and the Welfare of
His Country and His Profession
The National Society of Professional Engineers

Ladies at the meeting gather for tea. In the center is Mrs. Alan G. Stanford, wife of NSPE's President.

Houston Highlights . . .

Ninety-one-year-old Tyra C. Hughes of Tulsa, Okla., reputed to be the oldest practicing professional engineer in the United States, was at the Annual Meeting. It was Mr. Hughes' first visit to Houston in 65 years. As a youthful engineer he attempted to induce owner of mule car line in Houston to electrify the line. Failing in his efforts, he left Houston in disgust, calling it a tank-town village . . . J. W. Hall, Jr., Bryan, Texas, mechanical engineer and ex-navy lieutenant, gave fellow NSPE members a de luxe trip around the famous battleship, U. S. S. Texas . . . Fashion show for the ladies put on by the men brought out the SRO signs; biggest laugh was chic gentleman attired in real Texas red flannels . . . Vice Pres. J. W. Coleman tells the one about Kettering, famous engineer. When told about Lindbergh's amazing flight alone, Kettering observed: "Would have been more amazing if a *committee* had done it." . . . Many famous educators at Houston. Some of them: Emerson and Sweigert, Georgia Tech.; Wagner, U. of Mex.; Wilson, U. of Missouri; Oliver, U. of Ill.; Elliott, U. of Wis.; Allen, U. of Maryland . . . Chas. P. McKnight, hard-working Chairman of Publicity for meet, says he is happy to give up this publicity game and go back to engineering . . . Boats taking members down Houston Ship Channel had smallest bars on record —or was it the crowds . . . Remark of elderly gentleman when dozens of pretty Melody Maids entered San Jacinto Inn: "I'm shedding a year for every one who walks in that door." . . . Newspapers mentioned number of Republicans on NSPE Board of Directors. President Stanford of Georgia, accepted the news courageously and stated he would allow them to remain . . . S. L. Sachs, one-time Vice Pres. and now legal counselor, was on hand to continue his record of never having missed a Board meeting . . . J. W. Beretta, NSPE President in 1941 who gave up engineering to become a banker, couldn't stay away. Was warmly welcomed by old friends . . . Too much power was blamed for NSPE's recording device picking up soap operas as well as business session discussions. John's Other Wife continued to get in her comments.



Charming "Melody Maids" from Beaumont, Texas, who, in pink evening dresses, entertained the guests with popular songs and melodies. On the right, tall tales of Texas being told by T. C. Forrest of Fort Worth, Texas, NSPE director, to old cronies. Left to right, Mr. Forrest, S. L. Stolte of St. Paul, Minn., vice-president and president-elect; Oscar H. Koch of Dallas, outgoing president of T.S.P.E.; and NSPE President Alan G. Stanford of Atlanta, Ga.

President Stanford opening the sessions with his report to the Directors.

'Much Progress at Meeting' Stanford

WITH definite policy decisions being made on many subjects of interest to NSPE and to the engineering profession as a whole, the Annual Meeting at Houston can only be termed a success in view of its accomplishments.

President Stanford developed a theme of optimism in his keynoting report that carried throughout the meeting. After reviewing the varied activities of the many affiliated societies and chapters, Stanford outlined the work of NSPE as a whole. He then summed up NSPE's progress by saying: "While we have a long way yet to go before achieving our full aims and objectives, I feel confident that we are definitely beyond our swaddling clothes days and well on our way . . . I can see only the brightest of prospects for the future of our Society."

That NSPE is beyond its "swaddling clothes" days, was again emphasized in the report of the Executive Director, Paul H. Robbins. Robbins, touching upon only a few of the highlights of the work of the Washington office, first mentioned the legislative program. The Taft-Hartley law was one example used of legislation that received the careful scrutiny of the Executive Office. The value of the Legislative Bulletin, now sent to 1500 members, received comment, as did the close liaison maintained with all agencies of the Federal Government.

Robbins also discussed the successful new membership solicitation booklet entitled, "Man Was Naked," as well as the popular Chapter Handbook. New changes in the editorial and advertising policies of the AMERICAN ENGINEER were reviewed, along with the involved administrative procedures now necessary because of the Society's rapid growth.

Committee reports indicate progress in many directions. The outstanding features of each are embodied in the condensations that follow.

Affirm Point 4 Principles

The Legislative Committee affirms its support of the Point Four principles, and therefore recommend to the Board that the Legislative Committee be empowered to present our views to appropriate Committees and members of Congress on the following items of the legislation:

1. The head of the proposed Institute of International Technical Corporation should be a person who will administer the program with full appreciation of the fact that it is to be largely of an engineering nature. Therefore, we believe the administrator should be either a qualified engineer, or one who is experienced in administration of programs and projects involving large engineering aspects.

2. There should be a principal advisory body to consult with the President and the administrator. This body should have adequate engineering representation on it, together with representatives of other professions involved in the program.

3. The program should be carried out to the fullest possible extent by utilizing the services of private agencies and persons. The emphasis throughout should be on private enterprise including the fullest use of private engineering service.

4. The contemplated authority for the administrating agency to employ experts and consultants on a per diem basis is endorsed, but the proposed maximum figure of $50.00 per diem is too low under present economic conditions and the prevailing fees for engineering services. We recommend that this figure be increased to a maximum of $100.00 per diem.

Turning now to the second major item requiring Board action, we refer to the federal social security law and its extension. As has been reported in the Legislative Bulle-

(*Continued on page* 33)

I. About A Young Man With Ideas
—First In A Series—

NO MATTER WHERE you are when you read these lines, chances are you can reach out and touch something manufactured from steel. Even if you were slowly descending to earth in a parachute, a quick search would probably yield a number of items made of this most valuable material: a buckle, a watch case, a piece of jewelry. Thankfully, for a host of reasons, economic and otherwise, there's no getting away from it.

Steel, as we find periodically, is the backbone of American industry. Without its quantity production, the wheels stop turning in a thousand allied industries, and the items we look upon as commonplace, cease to roll off the assembly lines. Because steel is virtually the entire foundation of this country's material greatness, every professional engineer should be gratified to learn (or refresh his memory) about the engineer who really introduced its large scale manufacture into the United States. The name of this progressive, hard-driving man was Alexander Lyman Holley.

Holley, who was very amiable as well as enthusiastic, possessed a brilliant mind that rarely remained at rest. He only lived to be fifty, but it is safe to say that he accomplished more in his lifetime than do most men in twice the amount of time. His was a mind so alert and inquisitive that no one phase of the complex engineering industry could keep him entirely occupied. He was, in addition to being one of the finest mechanical engineers and metallurgists this country ever produced, an accomplished writer and illustrator as well. Coupled with this was a knack for old-fashioned American selling and keen administration.

HOLLEY'S extremely observant mind and inborn talent for drawing and writing became obvious at an early age. Before his tenth year he was familiar with the machinery in his father's knife manufactory and sketched it in great detail. During this period he was educated in academies in Salisbury and Farmington, Connecticut, and Stockbridge, Massachusetts, and then he prepared for college under a private tutor.

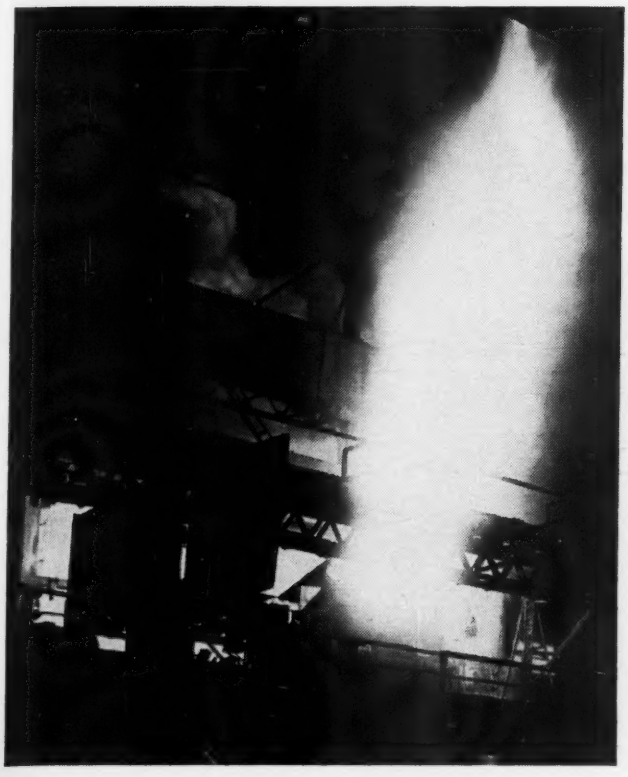
During these formative years, Holley not only retained his skill in drawing, but also put to use his literary talent, publishing a number of school papers while still in prep schools. His father's business continued to interest him and before he was old enough to enter college he wrote and sold a piece entitled, "*An Essay on Pen and Pocket Cutlery*." Later his wealthy father—who was a one time governor of Connecticut—entered him at Brown University.

While at the University, where he was an honor student, Holley continued his work of drawing, showing particular aptitude for designing and sketching locomotives. One day he realized that he had an idea for a steam-engine cut-off that was far superior to anything then on the market, so he worked out the details of his invention and obtained his first patent. He also described his new product at some length in *Appleton's Mechanics Magazine and Engineer Journal* in July, 1852. So, long before he had left college, Holley was well launched on a career!

Still obsessed with locomotives and how they worked, Holley, upon graduating in 1853, entered the shops of Corliss and Nightingale, Providence, R. I., as a draftsman and machinist. In 1855 he joined the New Jersey Locomotive Works at Jersey City, N. J., where he met Zerah Colburn, the superintendent, who was also the publisher of *Railroad Advocate*, a magazine Holley had written articles for while with Corliss. Shortly after the meeting, Colburn sold the *Advocate* to Holley, who published *Holley's Railroad Advocate* until the financial crash of 1857.

UNDAUNTED, Holley took the business depression in his stride. Along with Colburn, they talked a number of railroad presidents into sending them abroad to study European railroad practice. Together the two young men covered the Old World, always alert to ideas they could take back home. When they finally did get back to the States, Holley recorded his findings in a comprehensive report and had it published. He could interest few people in the volume, however, and to get his money back he had to resort literally to house to house canvassing.

But if the book on European railroads failed to weight his pocketbook, it did bring about a meeting with Henry J. Raymond, founder and editor of the *New York Times*,



Holley took Bessemer's furnace idea and brought it back to the United States. He knew it would revolutionize the steel industry.

who immediately attached Holley to his staff, and between 1865 and 1875, he wrote 300 articles for the paper. In a short time, the ambitious young engineer found himself to be a thoroughly established technical writer, but the desire to get closer to engineering made him leave the *Times*. For this decision the American people can be forever thankful, because he was soon to become Mr. Steel himself.

He got a job working on the design of a floating gun battery. He made several trips to Europe to seek information in ordnance and armor, and while in England in 1862 he met Henry Bessemer. Bessermer was very enthusiastic about a new method of making steel that he was experimenting with, and he found a sympathetic listener in Holley. The American went to Bessemer's factory to see what had been done. There he was shown a big metal pot lined with firebricks and clay.

"But why those holes in the bottom?" Holley asked.

"That's my invention," Bessemer said. "Watch."

WHEN the metal in the pot was molten, Bessemer cautioned Holley to stand back. Then, air was blown up into the bath, forcing a hissing flame out the mouth of the container. Hot metal flew dangerously in all directions for a few moments, but Holley was oblivious to everything except the wonder of what was happening before his eyes. Shortly Bessemer removed a plug from the bottom of the pot and out flowed a shining stream of steel.

"And *that* is steel?" Holley asked, astounded.

"Yes. Steel."

"But how . . . what happens?"

"Apparently there is some chemical reaction," the Englishman explained. "The air seems to burn, supplying the heat."

Next Bessemer grabbed a piece of cooled steel between a pair of tongs. Then with a hammer he beat the metal until the piece was flat. It did not crack or chip—it was perfectly malleable. Almost before he was finished Holley had left. This was the most wonderful thing that had ever happened to him. He could visualize what America could do with this great metal. There wasn't a moment to waste; he had to get back home.

In the United States he took his case to the top men of industry. Some were skeptical, but Holley's intelligence and confidence soon sold them. He finally made a deal with Corning, Winslow and Company, who sent him back to England in 1863 to buy for them the American rights to the patent. He then went to work designing and building a Bessemer steel plant. About this time an American named William Kelley claimed he held patents similar to Bessemer's, so Holley was temporarily slowed down until a merger could be worked out. Then he built a plant at Troy, N. Y., and by 1865 it was in full scale operation. From that day on, the career of Alex Holley was substantially the history of Bessemer steel manufacture in the United States.

IN 1867 he designed and built a plant at Harrisburg, Pa. From this experience he learned more about production methods, plant layout, and equipment, so the next year he rebuilt the plant at Troy. But even then he didn't stop.

(*Continued on page* 23)

The huge plants of today such as this one of U. S. Steel, owe their basic design to Holley.

Harry Darby,

Charter Member, Kansas Society, N.S.P.E., Becomes

U. S. SENATOR

Harry Darby (left), Kansas' new Republican senator, walks on the grounds of the capitol (background) with Hub Else, administrative assistant to the late Sen. Clyde Reed (R-Kan.).

HARRY DARBY, Charter Member of the Kansas Society of Professional Engineers and long active in N.S.P.E. affairs, is the new United States Senator from Kansas.

The wealthy Kansas City industrialist and Republican national committeeman was announced by Gov. Frank Carlson as his choice to serve out the year left in the unexpired term of the late Sen. Clyde M. Reed.

A 54-year-old World War I veteran, Darby, a mechanical engineer, is head of the Darby Corporation at Kansas City—a steel manufacturing concern which turned out Navy landing barges and other materiel in large quantities during the recent War.

Besides his work with K.S.P.E., Darby has been president of the American Royal livestock show at Kansas City for years, and is co-chairman of the state 4-H Club committee. How his Senate work will affect these activities was not made clear immediately, nor was Darby himself certain of the status of his position as Republican national committeeman.

"The appointment to the Senate came as a surprise," he said, "so I have given no consideration to my committeeman job."

A strong booster for Governor Dewey before the last national Republican convention, Darby was among those urged by Dewey supporters to seek the national chairmanship after the election. But Darby did not permit his name to appear in the balloting, preferring to devote his political attention to matters at home.

Although he will not be sworn in until the 81st Congress reconvenes in early January, Darby is now in Washington (see cut) looking over the place he will call "home" for at least a year.

Darby has never held an elective public office, but he has been identified with Kansas politics in major fashion since he served from 1932 through 1936 as director of highways by appointment of Gov. Alf M. Landon. He and Landon were rivals in a struggle for control of the Kansas delegation to the 1948 national GOP convention. He became national committeeman in 1940 and was a leader in the Dewey movements in both 1944 and 1948.

Darby is a farmer as well as an engineer. Gov. Carlson praised him as "an outstanding plugger" for both agriculture and industry. "I am pleased he has consented to take this appointment," the governor said, "in view of his great interest in and service to the state of Kansas."

Born in Kansas City, Kan., January 23, 1895, Darby attended the public schools of his home city and received his Bachelor of Science Degree in Mechanical Engineering from the University of Illinois in 1917.

Enlisting in the Army in April, 1917, Darby was commissioned in November as a provisional second lieutenant. He was sent overseas in March, 1918, in command of Battery C, 18th Field Artillery, 3rd Division and served on the front until October when he returned to the states and was assigned as inspector-instructor of the fourth brigade at Camp Jackson, S. C. In January, 1919, after attaining the rank of major, he returned to civilian life.

Following his Army service, Darby became vice-president and general manager of the Missouri Boiler Works Co., now the Darby Corporation. On January 1, 1924, he was elected president of the corporation, a position he still holds.

The Doctor and the Engineer

By

Mason I. Lowance, M.D.,

Chairman, Speakers Bureau, Fulton County (Ga.), Medical Society, and Head, Lowance Clinic

My only connection with engineers is a brother, Dr. Franklin Lowance, who is a member of the faculty at Georgia Institute of Technology. He lectures periodically to doctors of medicine on the physics of X-Ray. This relationship gives me a feeling of security today in addressing members of his profession on medical topics. My most direct contact with engineers was during my student days at V.P.I. More recently it has been my pleasure to meet Colonel Blake Van Leer, President of Georgia Institute of Technology, and to learn of his interest in the proper distribution of medical care.

The medical and engineering professions do not appear to cross each other's paths often, except in the instances of public sanitation and other similar projects. They do have, however, certain specific and mutual problems. It is of some of these problems I wish to discuss in this article. They deal with:

(a) Professional standing
(b) Professional recognition
(c) Specialization and its values
(d) Education for the profession and its continued improvement
(e) Organization of the professions to promote standardization for equal service to the people
(f) Governmental regulation

Professional standing has to do with recognition of the doctor and engineer both by the public and by members of the various fields of their professions.

The doctors have their registries in the county, district, state and national societies; the lawyers, to cite another profession, have their "Martindale-Hubbell" which is a register of ability and character. I presume the Engineering profession has a similar set-up which rates engineers as eligible for its organization, admitting what might be called "the cream of the crop."

The Fulton County Medical Society has a Judicial Council, composed of three physicians who decide, after careful investigation, whether a doctor meets the requirements of training and character to become a member in good standing of the Society. Of approximately 900 medical doctors in Fulton County (Atlanta), 691 are members in good standing of the Fulton County Medical Society.

After a man becomes a member in good standing, his conduct as a physician is always subject to review by the Society's Committee on Medical Ethics, also composed of three Fulton County physicians.

While it is true that the Fulton County Medical Society's secretary receives telephone calls daily from people who want to know if a certain physician is recognized as being capable in his line, the final recognition depends upon the way in which the doctor handles himself and treats his patients.

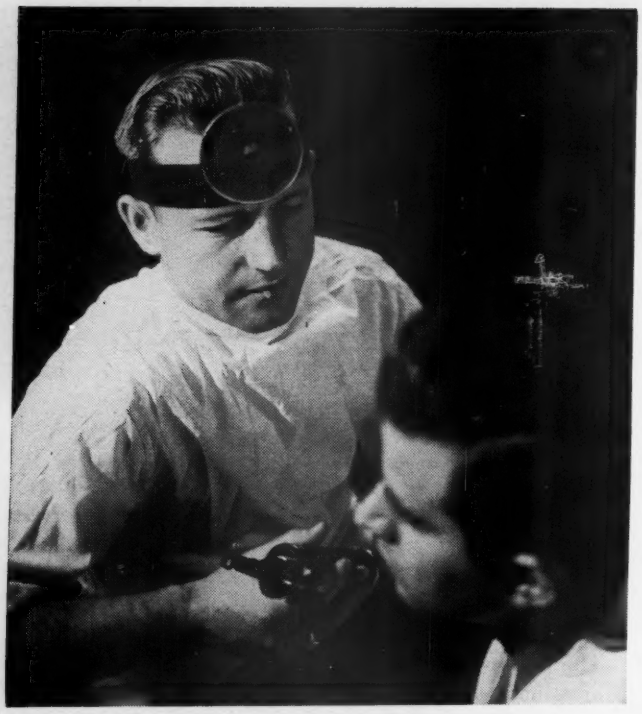
The public pays some attention to the fact that a man's professional standing is good with his fellows, but the final decision rests upon individual performance, character, and ability.

Physicians, beginning practice, swear allegiance to the Oath of Hippocrates. This Oath, not always easy for them to live up to, would, with necessary adaptations, make an excellent creed by which any man might order his life. You engineers, I am sure, have a similar creed.

During the 103 years that the American Medical Association has been in existence, its objectives have been the same as they are at present. (This has led to international recognition and has given the United States the best medical care in the world.) I can remember when the public looked upon the medical students as the lowest class of college society and even refused rooms to them while it accepted engineers or anyone else; doctors were thought to be vulgar and abnormal because they discussed physiology and anatomy in public. Now, all of these things are common topics of radio and newspapers. In the *Reader's Digest*, October issue, I note there are four medical articles out of the limited amount of material in such a publication.

We have spent much time in trying to give our patients enough scientific knowledge to see medical things practically instead of with skepticism. The only difference in a medical doctor and an engineer is in technical knowledge and either should be able to handle the other's profession well, if given the same technical knowledge. I consider the human body to be the best machine made and all engineering fields cover mere duplicates of some part of anatomy, physiology or physiological chemistry. Our neurologist compares to your electrical engineer; our plastic and orthopedic surgeons to your structural engineers; our medical men and diagnosticians to mechanical engineers, and so on through the various fields.

This nation now has approximately 180,000 physicians in private practice and the public



Professional standing has to do with recognition of the doctor and the engineer both by the public, and by members of the various fields of their professions, says the author.

and government are demanding more and more. Forty thousand of the private physicians are specialists. Here, I want to emphasize that the need of the people is for general practitioners who know when to direct a patient to a specialist and to the proper field of specialization.

THE public has been so misled, partly through the government's misinterpretation of specialists, that now most patients try to make their own diagnoses and select their own specialists. They are wrong more often than they are right. A patient should be seen by a general practitioner or in a diagnostic clinic first, where a correct evaluation of all of his symptoms could be made; he should then be referred to the proper specialist, if such is indicated.

Government propagandists have been telling the press and radio that as high as 80% of the present classes of medical students in American colleges plan to specialize. An unbiased survey soon will issue the true figures showing that only 43% of the present students plan to be specialists, while 40% will enter general practice and the remaining 17% are undecided.

There has been a tendency, however, in recent years for the doctor to specialize too early in his career. It is necessary that a physician see the patient as a total individual before he can treat a local disorder, just as a mechanic must see each part of the machine in its relation to the whole.

The general practitioners have recently organized into a group called "The American Academy of General Practice." You may have noticed in Atlanta newspapers a report that the Georgia Chapter of this organization has established a scholarship to finance medical students who agree to enter general practice for a minimum of two years in rural areas. This Academy now has an enrollment of eighty thousand and anticipates one hundred twenty thousand members before the end of 1950. Post-graduate courses are held for these men; two weeks ago such a course was conducted at Emory University.

MEDICAL societies and associations work closely with medical schools of the country in persistent efforts to improve and increase the facilities and training available throughout the nation. We want to standardize this training, making it possible for patients in isolated areas to have the same standard of skill and the same facilities that are avaliable to people in or near the larger medical centers. *That is true democracy in medical care.* The education of a doctor goes much further now than it did formerly, when he walked out of a two-year medical school and the next day hung up his shingle and started practicing medicine. Now we require a four-year college course, plus four years of medical training, plus one year interneship, plus four years residency. These last four years are not absolutely compulsory but are recognized as a good route to thorough training. It is my opinion that after this training, it would be highly valuable to a doctor and to his patients for him to spend a year or two with an experienced man who is already established, before he undertakes to practice on his own. The man who steps out alone in the beginning, sometimes feels what is known as superego, which actually is the manifestation of an inferiority complex. He may wonder whether or not he is doing the job as well as his older colleagues. Having had no experience in practice with them, he may isolate himself at the outset and fail to cooperate with other doctors. He may become narrow-minded or jealous. Again, this is a reaction to his uncertainty about his next-door neighbor's business and professional policies. Students and internes are now being sent to doctors' offices or to clinics for practical experience during their last year of medical school, or during their interneship and residency. This is a very excellent plan.

If you will refer to the October issue of *Reader's Digest*, page 97, you will find a good summary of what the State of Kansas has done to help with this educational program, which program provides more extensive medical care in rural areas.

SOME of the accomplishments and objectives of the American Medical Association are outlined in *Look* Magazine, the October 11, 1949, issue; I refer you to this also for information relative to the present day work of the American Medical Association.

I want to emphasize here that although the state, district and county associations are all a part of the larger American Medical Association, *each unit is autonomous and there is no centralization of the medical profession* in Chicago, Washington, Atlanta or anywhere else. The fight against centralization is one in which I know you engineers are interested and that leads me to my next topic, which is Government Regulation.

You have only to look across the Atlantic to England to see what government regulation is doing to the medical profession and to the people who depend upon it to save their lives. Someone said that *there are only two places where Socialism will work—one is in Heaven, which does not need it; the other is in Hell, where they already have it.*

The tendency toward Socialism in the British Empire has become so strong that a bill has been proposed in Parliament to socialize the lawyers. Who will be next, the Engineers?

You saw in the newspapers recently that the British Government has had to make a severe cut in its social medicine program. They are beginning now to charge a patient for prescriptions, although the high taxes paid for the program are supposed to include drugs. Of course, it would not be possible for England to continue the program very long if it were not for the Marshall Plan dollars which we keep throwing across the Atlantic. Who would provide a Marshall Plan for the United States in event of government control of medicine here?

HERE again, I refer to the article in *Reader's Digest* as to how the State of Kansas and its private physicians have gone Socialized Medicine one better. This article is a condensation of a more comprehensive one in *Coronet*.

You will note that these are all lay magazines with extensive reading material on medicine and what doctors are doing. Here is an interesting quotation:

> "Although Americans are considered the healthiest people on earth, they do not invest much in their health. Out of every dollar they spent in 1947, they put less than four cents into medical care.
>
> "Last year the American people spent a little more for jewelry than for hospital care, nearly twice as much for personal care (haircuts, permanent waves, cosmetics and such), three times as much for tobacco, seven times as much for recreation, and nearly eight times as much for alcoholic drinks.—Reprinted from Trustee, the Journal for Hospital Governing Boards."

In spite of such comments as this, those advocating Socialized Medicine have belittled the contribution of physicians to such an extent that it has become necessary for the American Medical Association to employ Public Relation representatives to inform the public as to what it has done and is doing. It is imperative that the people know how much less medical care they would have under a Socialized regime than they have at present.

In the Engineering profession, it behooves you to profit by our experience. You are doing a wonderful job; the public should know it. We did not want to publicize ourselves and the work we were doing except by the results obtained, but we now find that we should have kept these medical achievements before the people so that those who had nothing to do except covet political power would not have had an opportunity to try to undersell us to the voters and get control of the medical profession.

ANOTHER error on our part was that of initially criticizing these undersellers before publicizing our own accomplishments and plans. They have forced us, as it is, to execute some of these plans prematurely. The layman can recognize weaknesses but even though he be a master politician, he has neither the ability nor the right to dictate the distribution of medical care. (A layman is incapable of directing a mammoth engineering project; he is likewise unprepared to tell the medical profession how to meet its obligations.)

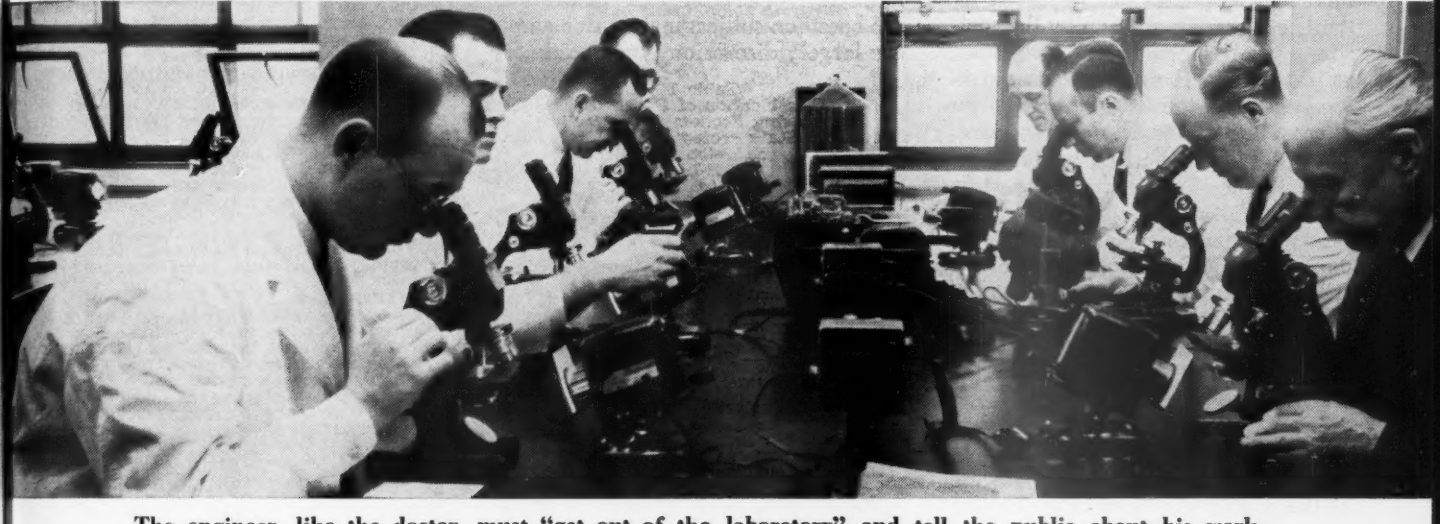
PUBLIC interest and demand for a broad voluntary health insurance program have caused a recent national trend among non-profit associations to supply low-cost insurance.

Group Hospitalization, Inc., the oldest and largest non-profit group in this country, with 430,000 members, only last month opened its rolls to individuals. Later, Medical Care, Inc., followed suit. Both of these operate in the District of Columbia and its Maryland-Virginia fringes.

On Wednesday night, October 26, 1949, in Dalton, Georgia, the Whitfield County Medical Council voted to institute some form of hospital and health care insurance to be paid for by the individual, the charge to be added to his utility bill.

In addition to what is being done by the doctors and medical groups to offset the socialized trend, some of the best work has been accomplished by the various commercial insurance companies in combating Socialized Medicine. These companies offer excellent hospital and medical policies.

In conclusion, I wish to say that our problems, as doctors, are not only similar to those of the engineering profession, but that these problems vitally concern all of us as American citizens. It is our hope that your organization will study our history and avoid errors that we have made. Certainly, it is to our mutual advantage that the engineers work hand in hand with the doctors to preserve the American Way of Life. (*This article is from a paper presented by Dr. Mason I. Lowance before Atlanta Chapter, Georgia Society of Professional Engineers.*)



The engineer, like the doctor, must "get out of the laboratory" and tell the public about his work.

New York's Examinations in

Economics of Engineering and Practice

For Licensing of Professional Engineers

By Arthur Lesser, Jr., Associate Professor and Acting Chairman of the Economics of Engineering Department, Stevens Institute of Technology,

and

Eugene R. Crilly, Formerly Instructor in Economics of Engineering, Stevens Institute of Technology

BECAUSE OF THE influence that New York State has had on the procedures adopted by other states in the licensing of engineers an analysis of one phase of New York's examining procedure will be of interest. This interest has broadened considerably in the last few years because of the increased emphasis being placed on the licensing of engineers by the societies of professional engineers. Whereas in the past, the nature of the contents of the examinations being given affected only the small number taking them, now they exert an impact on a much larger number of applicants as well as on an entire movement.

In pursuing this thought, it is the purpose of this article to make a critical evaluation of the *Economics of Engineering and Practice section* of the examinations given from February, 1938 through July, 1948 by the State of New York for the licensing of professional engineers. We propose to investigate: (1) the types of problems given; (2) the appropriateness of the problems (a) as to testing the judgment, knowledge and maturity of the applicants, and (b) as to the scope and aims of the subject matter covered by the problems; and (3) the adequacies of the examinations to promote the professional status of engineers.

In 1920 New York State passed a law requiring the registration of engineers and commenced giving qualifying examinations in 1931. In February 1938 a new type of examination was inaugurated which has continued to be given to the present time. In this type the applicant must answer three out of five questions in Economics of Engineering and Practice and five questions out of any one or two of four specialized fields. Four hours are allotted for the completion of this part of the examination.

For the purpose of evaluating the content of the Economics of Engineering and Practice examinations, the questions that have been given since February 1938 up to and including July 1948 have been analyzed. There were twenty-two examinations in all with 110 questions. In Table 1 following, the 110 questions have been divided into seven categories. The basis of the breakdown for the first three categories has been the method used in solving the problems which are mostly numerical. The last four categories are based on subject matter alone and are largely discussion type questions.

Table 1
Classification of Problems
Engineering Economics & Practice
New York State Professional Engineering Examinations
1938-1948

		Number	*Pctg.*
1. Interest and Its Applications			
Interest as such	1		
Bond issues	7		
Bond valuation	5		
Debt amortization	4		
Present worth	5		
Extractive property valuation	3		
Depreciation — Sinking Fund	8	33	30.0%
2. Economic Choice			
Same life	11		
Different life	12		
Minimum cost	7		
Balancing of costs	3	33	30.0%
3. Cost Analysis			
Cost of one item	11		
Variation of capacity	1	12	10.9%
4. Valuation			
Goodwill	1		
Miscellaneous	1		
Bldg. appraisal	1	3	2.7%
5. Contracts & Specifications		10	9.1%
6. Ethics		6	5.5%
7. Miscellaneous		13	11.8%
		110	100.0%

FOR a better understanding of the nature of the break-down in Table 1, the following descriptions for each of the categories in the Table are included:

1. *Interest and Its Applications*
The classification interest includes simple problems involving pure compound interest and ordinary annuities certain. They do not vary from the point of view of method of attack but rather from application.
2. *Economic Choice*
These problems involve choosing the cheaper of alternatives by comparing, for example, annual expenses which consist of capital charges, such as depreciation and interest on the investment, and operating charges, such as maintenance and expense to run. In some cases, the operating charges are non-existent, for instance, in the case of treated and untreated timber, and in others are assumed equal such as in the case of two machines that cost the same to operate. For problems of this nature, the comparison may be made on a basis of first cost. In this same category can be placed the determination of the most economical design such as the number of piers in a bridge structure, most economical thickness of insulation, etc.
3. *Cost Analysis*
The problems included in this category involve a determination of the capital and operating charges which enter into the cost of production of one product such as the cost per kilowatt hour of power generated.
4. *Valuation*
This part includes primarily discussion type questions on how to evaluate a going concern, make an appraisal, and evaluate a public utility property for different purposes.
5. *Contracts and Specifications*
This classification deals with the principles of contracts and the legal aspects of specifications met with in construction work.
6. *Engineering Ethics*
These problems stress typical situations facing engineers in client-engineer relationships.
7. *Miscellanoeus*
These are primarily discussion type questions including methods of depreciation, business organization, (partnership and corporate form). business finance, (the characteristics of preferred and common stocks, the nature of a trustee under a corporate mortgage), and others, some of which will be alluded to in the text.

AS is apparent from Table 1, the primary weight of the examination has been placed on economic choice and interest including its applications. These two categories comprise 60 per cent of all the problems given or on the average three out of every five questions per examination. Relatively minor weight has been given to the remaining five categories including cost analysis, valuation, contracts and specifications, engineering ethics and miscellaneous.

From a general point of view, the objective of this examination is presumably to test the ability of engineers to make decisions as to the economic use and production of materials and energy. The ability to make proper decisions in these matters has been described as one of the important attributes of a professional engineer. The question posed is whether the examination as given does perform this function. Certainly, it does stress a method of attacking the problem of economic choice. However, rarely

does it go below the surface to probe how and where the data given in the problems were obtained. For instance, operating and capital charges are invariably given. We cannot quarrel with necessity of giving these data for examination purposes. However, from an analytic point of view, the engineer would want to be in a position to evaluate the data furnished. Considering that most of it must come from accounting records, it follows that, unless the engineer is in a position to understand the point of view and procedures of accountants, he must accept the accounting data furnished him without being able to check or test its validity. Since the engineer in responsible charge is critical of the goodness of the engineering data given him by others, it would seem to follow that he should be equally critical of accounting data given him by accountants. As a matter of fact, the regulations of the Commissioner of Education of New York State prescribing the contents of the Economics of Engineering and Practice examination stipulate that questions on accounting shall be covered. The pertinent section of the regulations follows:

> "This group will cover questions on economic comparison, fixed and operating costs, accounting and cost analysis, valuation, contracts, specifications, safety provisions and professional ethics."

It will be noted that cost analysis is prescribed as one of the topics to be covered by the examinations. If we accept the definition of cost analysis as cost finding, as implied by the problems given on the examinations, we feel that the scope of the problem material is much too narrow. It is limited to finding the cost of producing a single uniform product, usually electric energy in total or per unit. Problems of this type overlook entirely the complexities and difficulties of cost finding where overhead must be allocated to several different products made by a company. Since problems like the latter are so common in actual practice, it would seem important that the professional engineer be familiar with the fundamental ideas entering into their solutions.

There should be little difficulty in framing examination questions which would adequately test whether those taking the examination have some knowledge of the subject matter considered above. We recognize that inserting problems of this kind would mean de-emphasizing, but not eliminating, problems involving interest and economic choice. We feel if the number of questions in the latter groups be limited on the examinations that there would be a greater chance that the questions asked would have more significance and have more relationship to the problems which many of the professional engineers are likely to face frequently. Put another way, we believe that the examination questions as given now, particularly those involving interest and economic choice, are typical of these that might well be given students just completing a course of instruction in Economics of Engineering. That is, the examinations stress concepts rather than the application of these concepts to broad problems. As a matter of fact, we at Stevens Institute find that our juniors with no experience or maturity have little trouble in solving problems involving interest and economic choice taken bodily from the New York State examinations after only 16 hours' instruction.

We know that it is essential that the professional engineer should be familiar with such ideas as interest, present worth and economic choice, but we feel that he should have passed the point where he need be quizzed on the bare ideas. Now he presumably has arrived at the place where he should be able to use these concepts in the solution of problems of broader scope and generality.

The examinations reviewed place rather small emphasis on our remaining four categories including engineering ethics, contracts and specifications, valuation and miscellaneous. We are inclined to think that the emphasis given to these groups is about right.

An analysis of the miscellaneous group is interesting, because of its great diversity. For instance, there are questions or parts of questions on the implications of technological unemployment, business finance, index numbers, a definition of economic value, the economics of mass production, as well as others too numerous to cover here. Questions such as these do probe the applicant's knowledge as to the broad problems facing the economy. However, from what we can see, there appears to be no plan or clear cut objective in mind in asking these diverse questions.

We agree that the professional engineer should have a broad knowledge. However, we think that a broad knowledge should start first with the wider aspects of immediate problems likely to face pracaticing engineers. For example, in connection with most economic choice problems, the economic aspects are only one criterion on which final judgment can be made. The intangibles involved must be fully explored and given deep consideration. It is not infrequent that the results of an intangible analysis will override the conclusions of an economic analysis. The examinations, however, completely overlook this critical point. A man of professional stature surely would be expected to handle the intangible as well as the tangible analysis. Finally, there is the financial analysis which must be given due weight before a final decision is made in deciding between alternatives. It is a moot point as to whether the professional engineer should be versed in this subject but there seems little doubt that the engineering analyst should be in a position to suggest some of the fiancial effects that alternative choices might bring about. For example, we are thinking here of the danger of tieing up too much working capital in the form of fixed assets despite an otherwise favorable economic and intangible analysis.

We wish to make it clear that it is not our intent to quarrel with the idea of the engineer having some knowledge of the economy in which he lives. In fact, we are convinced that if professional men are to be leaders in their communities, the broader they are in knowledge and perspective, the better it will be for their communities. However, if we consider this a worth while goal, then the examination should emphasize it systematically and purposefully. We believe that this goal should and can be pointed up by showing the relationship between engineering economy and general economics. In our opinion, economics of engineering consists of specific applications of general economics. However, until this tie-in is made more obvious by the educators, there is some question on just how far and in what direction the examination should go in questioning on the broader aspects of the economy.

Michigan Society—January 21, 1950, Michigan State College, Lansing, annual meeting.

California Society—January 20 & 21, 1950, Sacramento, annual meeting.

Illinois Society—January 26 & 27 1950, Orlando Hotel, Decatur, Ill., annual meeting.

New York State Society—January 27 & 28, 1950, Hotel Rochester, Rochester, Winter meeting.

Wisconsin Society—January 27 & 28, 1950, Milwaukee, annual meeting.

Idaho Society—January 20 & 21, 1950, Boise, annual meeting.

Oklahoma Society—January 12 & 13, 1950, Tulsa, annual meeting.

South Carolina Society—January 13 & 14, Greenville, annual meeting.

ECPD Holds Annual Meeting

Full Agenda Covers Subjects of Vital Interest

Harry S. Rogers, president, The Polytechnic Institute of Brooklyn, was elected chairman of the Engineers' Council for Professional Development, at an annual meeting of the group held recently in Chicago.

Rogers will succeed James W. Parker, who completed three years of service as chairman. Col. L. F. Grant, Queen's University and Royal Military College, Kingston, Ontario, Canada, was elected vice-chairman and C. E. Davies, secretary, The American Society of Mechanical Engineers, and William N. Carey, executive secretary, American Society of Civil Engineers, were elected secretary and assistant secretary, respectively.

The ECPD is an organization whose objective is the betterment of the professional status of the engineer. It is composed of representatives of various engineering societies who, through their committees, devote their time to solving some of the problems facing the profession. Condensations of the reports of some of these committees follow.

Student Selection and Guidance

In the field of student selection and guidance, the Council has established on a self-supporting basis its activity in aptitude and achievement testing known as the Pre-Engineering Inventory. When it developed that the cost of the service was proving greater than estimated when the arrangement with the Engineering Testing Service was entered into, a special committee of ECPD, consisting of Dr. H. S. Rogers and Dr. Allan R. Cullimore, conferred with Mr. Henry Chauncey, president of ETS, with the result that a new arrangement has been made providing that the Pre-Engineering Inventory will be supplied to teaching institutions on a rental plan, in either short or long form, to be scored by the institution or by ETS at the using institution's option. The short form of test is intended principally for admissions testing; the long form for guidance purposes. A graduated scale of prices has been established for varying types and amounts of service performed by ETS. With scoring by the institution, the rental of the short form test materials will be at the rate of $1 per examinee. The cost to the teaching institutions will be considerably less burdensome than under the first arrangement with ETS.

The so-called "national testing program," offering tests to all individuals applying for them and conducted at well-distributed testing centers throughout the country, is being amalgamated with the more widely available College Entrance Examination Board tests. They are administered, as formerly, at the expense of the individuals tested. These tests will be conducted in over 300 examination centers. A new Board examination has been prepared for 1949-1950 which includes certain additional tests in order that the complete test battery will be very closely the equivalent of that of the pre-engineering inventory.

The Committee on Student Selection and Guidance plans to issue a new guidance booklet for the use both of guidance counselors on the staffs of secondary schools throughout the country, and of the volunteer counselors who take part in guidance conferences held in various large industrial centers. The Committee is aware of the need for systematic instruction of engineering counselors everywhere and is planning to initiate a program to that end.

In the secondary schools of smaller communities, student counseling by engineers in active practice is not now available, and the Committee is considering the possibility of establishing such a service wherever possible.

Engineering Schools

The Committee on Engineering Schools believes that the whole field of accrediting needs thoughtful coordination not only with regard to the accreditation of undergraduate college curricula but also as to the inspection and accrediting of technical institutes and as to post-graduate study whenever that is undertaken. They have in hand the establishment of minimum standards of engineering content in curricula to be inspected and passed upon by the delegatory regional committees and are engaged, furthermore, in a re-examination of questionnaires addressed to the institutions to be inspected.

The Council has before it the recommendation of the chairman of the Subcommittee on Technical Institutes, Dean H. P. Hammond, that this subcommittee be made one of the standing committees of ECPD. It has been urged by several members of the present Council, on the other hand, that the original designation of the main committee as one dealing with engineering schools was with the express intent of coordinating all of the Council's work in the accrediting field through a single committee.

Whether or not the charter of ECPD should be amended to provide for this and possibly one other standing committee recommended by the special Committee on Principles of Engineering Ethics, will be the subject of discussion at this annual meeting of the Council.

A subcommittee under the chairmanship of Dean S. S. Steinberg is continuing to give attention to the possibility of assisting the engineering colleges of South America in the establishment of a program of accrediting based upon instructional standards which will be essentially uniform with those adopted in this country.

Meantime the Committee reports substantial progress in its two-year postwar program of initial inspections and of reinspection of curricula dealt with in the earlier years of the program.

Professional Training

The Committee on Professional Training has been actively engaged in establishing a seven-point program directed toward extension of educational processes by systematic means into the period following graduation from engineering college. In the coming year they will promote the implementation of this program of activity in the local sections of national engineering societies, expecting that at community level participation will be had from a number of societies other than the eight directly sponsoring the national organization of ECPD.

The plan envisages an organized program for continuing an engineer's education into and through the years of active employment. In furtherance of the program, the Committee is making a survey of the availability of courses of graduate study in urban areas and is arranging for a

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"KEEP OUT"

A "professionalists' law" is likely to pass the federal legislation of Mexico at its current session, according to informed sources in the Mexican capital. This proposed law, based on constitutional Article 4, demands that only Mexicans by birth practice any profession in Mexico.

The measure provoked a stir when it was first announced in 1943. Since then the matter has been dormant. The measure has been scheduled for congressional hearing several times, but each time it has been deferred until the next session because of the pressure of more urgent business.

In 1909 a law was enacted and is still strictly enforced which demands that all enterprises in Mexico that have the legal status of "company" see that at least 90 per cent of their employees are Mexicans. The current measure is also related to the amended migration law, enacted five years ago, which bans from residence in Mexico all foreigners who must work for pay, other than those who can make substantial investments, preferably in agriculture and allied fields, and commerce and industry that are Mexican-controlled. The only exceptions are technicians (who must pledge that they come to teach Mexicans, after which they must quit the country) employees of governments, very specialized salesmen and entertainers. All these can stay in Mexico only briefly. Any other visitor who tries to work for money is liable to deportation on the spot when apprehended.

"Professionalists' law" sponsors contend that Mexico has abundant Mexican civil engineers and other professionalists to attend to national needs. They cite numerous graduates from engineering and other professional schools.

If this proposed "Mexico for Mexican Professionalists" is enacted and enforced it will affect a number of U. S. engineers who are now engaged on various projects in that country, and it is thought that a precedent would be established which might restrict the work of our engineers in other countries, particularly in Latin America. — *October* 13, 1949, *Engineering News-Record.*

ENGINEERS IN MEDICINE . . .

Engineers are eager to contribute to the engineering problems associated with medical research, but many of them do not know what they can do to help or how to make the contacts which would provide this information, according to Luis de Florez, Mem. ASME, president, de Florez Engineering Company, Inc., New York, N. Y.

Admiral de Florez was the first speaker at an informal gathering of engineers and medical investigators in the cafeteria of the Cornell Medical Center, New York, N. Y., June 17, 1949, sponsored jointly by the faculty of the Cornell University Medical College and the Committee of Engineers Co-Operating in Medical Research of the Engineers Joint Council.

As spokesman for the medical investigators present, Dr. C. P. Rhoads, director of the Sloan-Kettering Institute for Cancer Research, told the group that medical research was constantly increasing in complexity and depended more and more on instruments of precision. The medical profession, Dr. Rhoads said, would welcome aid from engineers in attacking the nonmedical problems of an engineering nature currently hampering medical investigations.

Cooperation and an exchange of experience can give rise to important ideas, Dr. Rhoads said.

At the suggestion of Dr. William A. Geohegan, Members AIEE, and a member of the faculty of the Cornell University Medical College, Dr. DuBois called on several medical investigators to describe some of their work and to point out where engineering assistance would be most helpful. From the discussion it was apaprent that research tools and methods were among the primary needs, and that some of the problems were indeed a challenge to the engineering profession.

To acquaint engineers with the instruments, techniques, and procedures used by medical investigators, 19 exhibits in various parts of the Medical Center were open for inspection. Escorted by members of the medical group, engineers were impressed by the mass of mechanical and electrical equipment in each of the laboratories which, in most cases were obscured by medical objective of the projects exhibited. Engineers were told that commercial instruments designed for medical investigation were generally not available, and that medical research was often held up for many months and sometimes abandoned because of failure to modify or adopt available instruments to obtain the medical data sought.

If nonmedical engineering problems currently associated with medical research could be solved by engineers working in industrial laboratories, hospital space now devoted to this activity could be used more profitably for purely medical phases of research, and medical investigators would be spared the waste inherent in nonmedical effort. It was on this working level where a strong community of interest between the professions was apparent, and where engineers could make an immediate contribution by working with medical investigators in an atmosphere of friendly informality.

When the inspections were concluded, the groups returned to the cafeteria to continue discussion of common problems and experiences. Following a suggestion made earlier, engineers indicated their specialities on registration cards. These were turned over to the EJC Committee to be used for calling in engineers whose industrial experience was germane to medical projects under way.—*ASME News.*

ENGINEERS AND POLITICS

C. D. Howe, who is usually looking ahead, recently took time off to look

back and think about his own profession, engineering. He came up with some startling facts about the extent to which engineers have come to occupy an influential place in modern society. He noted that when he entered the cabinet in 1935, he was the first professional engineer to serve in any British Commonwealth government. Now, he said, there are two engineers in the Cabinet. This may or may not indicate that engineers are on the way to replacing lawyers in senior government posts.

In his youth there were about 1,500 engineers in all Canada. Today, while the population is only twice as large, there are ten times as many engineers. The number of people employed in industry had about doubled, freight carried on railways had increased four times. Telephone business had increased eight times. The only other item in the national economy which kept pace with the increase in the number of engineers was the national debt and Howe disclaimed any relationship. Engineers were and have been finding places not only in the technical spheres for which they are trained (and which provide increasing opportunities) but in operating, executive and administrative branches of business and government. This he considered proof of the importance of science and technology in modern industrial and economic life. He predicted the trend would continue.—*Canadian Engineering Journal, Sept.* 1949.

UNIFIED RIVER DEVELOPMENTS . . .

Engineers and scientists assembled at Lake Success for the recent United Nations' Scientific Conference on the Utilization and Conservation of Natural Resources were told of the loss resulting from what the speakers characterized as haphazard river-basin development. The need for over-all planning for each river system was cited as being of increasing seriousness.

No one will deny the need for such over-all planning, but it is manifestly unfair to imply, as do the most of today's outspoken advocates of multiple-purpose planning, that the lack of such planning is due to short-sightedness on the part of those who did the most river development work in this country in the past—the Army Engineers and the private electric utilities. Some of the best planning done to date for integrated river development was done by those agencies.

Nearly 30 years ago the Army Engineers recommended to Congress that plans be made for the unified development of the water resources of all major rivers in this country. That recommendation resulted in the passage in 1927 of legislation authorizing what now are known as the "308 Reports."

The need for unified river development is not a new discovery. It is only receiving increasing attention because funds and authority now are being more freely supplied to put it into practice.—*Engineering News-Record, September* 29, 1949.

BRIDGES OF KNOWLEDGE . . .

In one of the panel discussions of the memorable celebration at the Institute last April, a speaker attempted to dispose of the problem of general education in relation to specialized education by the rhetorical question of who would trust a "generalist," the product simply of a liberal arts education, to design a bridge? This question has been troubling me ever since, for two reasons. The first is that the speaker missed the point when he assumed that general and specialized education are at war rather than complementary. If he is right, then engineering schools are at fault in devoting time and money to the teaching of the humanities and social sciences, and M.I.T. should never have joined in the partnerships which seem to me so fruitful, for the granting of joint degrees with Williams College and 13 similar liberal arts institutions.

But the second thing that troubled me about the false dichotomy this speaker on April 1 sought to establish is that there are important bridges which must be built and kept in good order, which will never be constructed save by those imbued with the spirit of liberal education. These are the bridges across the gulfs which now yawn so alarmingly between the three vast areas of knowledge which we often describe as the humanities, the social sciences, and the natural sciences.

If Aristotle, for one, came to life again and visited Washington, he would find no building to match the Parthenon, but I am confident that he, like the rest of us, would admire the Lincoln and Jefferson memorials and many of the paintings in the National Gallery. My guess is that what would impress him most in our civilization would be not our comforts and our gadgetry but the progress that had been made over the centuries in advancing basic science. If I may hazard a guess, perhaps the two things that would trouble him most would be the difficulties that now stand in the way of the man who wishes, as he wished, to take all knowledge for his province; and the low standard of political competence achieved by the average American citizen.

Whatever one may say about Athenian Democracy, and when I remind you it rested on slavery I have presented a terrible indictment, we come off badly when we compare the political competence of the Athenian voter with that of the average American entitled to mark his ballot or to pull the lever of the voting machine. One proof is that the Greeks could leave to chance the choice of the presiding officer of their largest political assembly, confident that the average citizen could do the job. They found it possible to trust the average voter to perform the highly difficult task of presiding over a large political assembly. How many men are there in the town of Cambridge today who could be capable of handling competently a public meeting of 5,000 persons?

It is a serious dilemma we face, that underlies this imaginary dialogue. How can any of us keep abreast of the current production in the arts and sciences, let alone survey the mountainous accumulations of past ages? In medicine the advances of science have been so great that the time for study required of a doctor has steadily lengthened until the date when a man begins active practice approaches ever closer to the date of his retirement. If we rely on the subdivision of labor alone to solve our problem then who will take the comprehensive view?

Unless bridges are built from the area of medicine and public health to the areas inhabited by the rest of us, and unless there is an adequate traffic of ideas across them, how can we count on adequate public and private support for them, on wise legislation in the field of public health or the avoidance of unwise legislation? Specialists in medicine early developed one of the most formidable jargons known, so bristling with $64.00 words as to challenge all competitors. If sufficient translations into the vernacular are provided the traffic on this bridge will be heavy, for we need the information for the conduct of our own lives and the rearing of our children.

But the traffic must not be one-way, for the scientist and the engineer have great need of ideas imported from the areas of the social sciences and the humanities.—*By J. P. Baxter, 3d. The Technology Review.*

Engineers and Progress

(*Continued from page* 13)

He was determined to make America first in steel—although at that time the young nation's industry was far behind. Now came more and better plants at Chicago, Joliet, St. Louis, Scranton and Pittsburgh. In a few short years he became the foremost steel-plant engineer and designer in the United States and probably the world. His original improvements in design brought about the large scale manufacture of steel for the first time, and he became the father of modern steel manufacture. Less than twnty-five years after Bessemer's invention of the converter, America rivaled England in steel production, largely because of Holley's ability and belief.

The human dynamo ran down in 1882 and America lost one of its greatest minds. To the end Holley never stopped working to devise new and better ways of making steel. Without the pattern he set, life as we know it today would not exist, as the things we take for granted would be forbidden luxuries. His was a pattern of engineering knowhow, vision and daring, that has helped America outstrip the world.

Corrections...

In the December, 1949, issue of the AMERICAN ENGINEER we listed Conditions For Registration By Endorsement Without Written Examination in the 48 States. Since that time, some States have changed their requirements. These States and their new regulations are listed below.

Arizona—
1. Prior registration by written examinations.
2. Prior registration on long established practice.
3. Prior registration on graduation plus four years of satisfactory engineering experience.

Colorado—
1. Graduation from an approved school plus three years of satisfactory experience.
2. Seven years of satisfactory experience for applicants without educational credit.
3. Prior registration under satisfactory equivalent requirements.
4. No written examinations required, except in doubtful cases.

Connecticut—
1. Graduation from an approved school plus four years of satisfactory engineering experience.
2. Prior registration by equivalent examination plus eight years of satisfactory engineering experience.

Delaware—
1. Satisfying statutory requirements of education, training and experience.
2. Prior registration or National Burea certification immaterial.

Florida—
1. Satisfying requirements of training and experience plus prior registration by passing equivalent written examinations in another state.
2. Prior registration plus evidence of long established responsible practice (over fifteen years).

Idaho—
1. Prior registration by written examination accepted if there is a reciprocal agreement between the two states.
2. The right is reserved to deny reciprocal registration when prior registration was not by written examination.

Illinois—
1. Registration in another state prior to 1946, based on graduation from an approved school plus four years of experience.
2. Graduation from an approved school plus fifteen years of experience plus recognized distinction.

Iowa—
1. Prior registration by written examination.
2. Personal interview or other evidence required if prior registration was without written examination.

Kentucky—
1. Prior registration on graduation plus four years of experience.
2. Prior registration on eight years of experience plus two days' written examination.

Louisiana—
1. Graduation from an approved school.

Maine—
1. Graduation from accredited curricula plus four years of qualifying experience.
2. Equivalent written examination in another state accepted in lieu of Maine examination.
3. High professional standing plus oral examination in Maine.
4. National Bureau certification practically always accepted.

Massachusetts—
1. Satisfying minimum statutory requirements (Model Law).
2. National Bureau certification accepted.

Michigan—
1. Twelve years' satisfactory experience plus prior registration or National Bureau certification under requirements equivalent to those of Michigan at that time.
2. Prior registration by written examination under registration requirements equivalent to those of Michigan at that time.

Mississippi—
No Statement received.

Missouri—
1. Eight years of satisfactory experience, plus passing equivalent oral or written examination in another state.
2. Graduation from an approved, fully accredited school or college plus four years of satisfactory experience.
3. Reciprocal agreements with other states are not required for registration by endorsement, but are required for reciprocal registration.

Nebraska—
1. Outstanding experience, including five years in responsible charge of engineering work.
2. Prior registration by written examination of reasonably high standards.

New Mexico—
1. Graduation from an accredited school plus four years of satisfactory experience.

North Carolina—
1. Prior registration by written examinations.
2. Prior registration on long established practice.
3. Prior registration on graduation plus four years of progressive engineering experience.
4. National Bureau certification.

Ohio—
1. Prior registration by written examination.
2. On long established practice, if registered in another state prior to 1938.
3. Prior registration prior to 1946 on graduation plus four years of experience.
4. Prior registration under a "grandfather clause" prior to 1935.

Rhode Island—
1. Graduation in an approved engineering curriculum plus four years of satisfactory experience.
2. Twelve years or more of lawful practice of a satisfactory character, provided applicant not less than 35 years of age.

Texas—
1. Graduation from an E.C.P.D. accredited course plus at least four years of satisfactory experience in engineering work.
2. Prior registration by written examination following eight years of satisfactory experience.
3. On twelve years of experience in engineering work of which five years were in responsible charge, provided the applicant was registered in another state prior to 1942 and provided the applicant was not less than 35 years of age when registered.

Vermont—
1. Graduation from 4 years' course plus three years of engineering experience.
2. Prior registration in another state.

West Virginia—
1. Graduation from an approved school.
2. Prior registration by passing an equivalent written examination in another state.
3. On mature age, long professional experience and outstanding engineering accomplishments, plus an oral examination by the West Virginia Board.

Wisconsin—
1. Graduation from an approved curriculum plus four years of engineering experience.
2. Twelve years of engineering experience, with age over 35.
3. National Bureau certification may be accepted.

To Be Let Alone!

(*Continued from page* 7)

universal fundamental right to freedom from want? If there is such a right, it belongs to all peoples, in all places, and at all times.

NEITHER does No. 4, Freedom from Fear, meet the test. Some fears may be caused by a violation of our right to be let alone, or by arbitrary governmental interference with that fundamental freedom. To that extent, and to that extent only, we should be free from fear; for fear is a protective instinct,—it saves lives and it prevents crimes by those who fear punishment. It obviously cannot, and should not, be a universal right. Others have tried to enumerate fragmentary rights, but their endeavors have served only to prove that there are not many, but only one.

I now want to produce certain expert witnesses whose lives and words will testify to the essential nature of a "right" and to the real meaning of the word "liberal." Let us use their testimony to see whether my one fundamental right may be used as a standard to measure the so-called "rights" of the so-called "Universal Declaration."

First, Woodrow Wilson, whom I qualify as a great liberal and historian:

> "Liberty has never come from the government. Liberty has always come from the subjects of it. The history of liberty is a history of limitations of governmental powers, not the increase of it."

Second, Abraham Lincoln, whom I qualify as a great liberal and humanitarian:

> "I believe each individual is naturally entitled to do as he pleases with himself and the fruits of his labor, so far as it in no wise interferes with any other man's rights." (Here is a perfect statement of the right to be let alone.)

Third, Thomas Jefferson, whom I qualify as the greatest liberal in history:

> "That government is best that governs least."

TO those who reply in essence that Jefferson was a well-meaning yokel who lived in an agricultural district in a provincial age, and that he wouldn't know the score in the crowded conditions of an industrial age, I can only reply that he was a brilliant man and that from 1785 until the French Revolution in 1789 he was our representative to the Kingdom of France in a period when statism had become absolute and state planning was all-inclusive. May I quote a passage from an authoritative book and ask you to listen carefully to see if you think this is a quotation applicable to the United States of America today:

> "The Government having become more active in the last twenty years, and having embarked in every species of undertaking which it had never thought of before, has at last become the greatest consumer of the product of industry and the greatest contractor of public works in the country; the number of persons who have pecuniary transactions with the State, who are interested in Government loans, live by Government wages, or speculate in Government contracts, has prodigiously increased. Never before has the fortune of the nation and the fortunes of private persons been so much intermingled."

This quotation is from De Tocqueville, and the name of the book is "State of Society in France Before the Revolution of 1789," the quotation being from page 327.

Since we now have the background and the definitions, it may be well to come to my subject, "The Universal Declaration of Human Rights," adopted a year ago by the Assembly of the United Nations. Without taking any time on those that are substantially in accord with our historic rights, I come immediately to the so-called "social and economic rights," Articles 22 through 27, which I call, not "rights," but aspirations.

Article 22:

> "Everyone as a member of society has the right to social security and is entitled to the realization, through national effort and international cooperation and in accordance with the organization and resources of each state, of the economic, social and cultural rights indispensable for his dignity and the free development of his personality."

Joe Doakes, having discovered this new right (and a right, of course, is something you can demand against the world), decides that he wishes to maintain his dignity and develop his personality and to have his full measure of social security.

Article 23 says that everyone has the right to work, to free choice of employment, to just and favorable conditions of work, and to protection against unemployment.

Article 24 says that everyone has the right to rest and leisure, including a reasonable limitation of working hours and periodic holidays with pay. For the moment we will not go into the case of the wild man from Borneo or the Eskimo in the cold, frozen North, but will stay with Joe Doakes. He decides to renounce his right to work, under Article 23 (since there is no obligation to work but merely the right), and to claim, under Article 24, his right to rest and leisure, and, under Article 22, as we mentioned before, his right as a member of society (unrestricted by any obligations) to have social security such as the resources of his country can provide, and the economic, social and cultural rights which are indispensable to his dignity and the free development of his personality.

Article Twenty-Five

Reading further, he decides he likes the rights provided in Article 25, including the right to a standard of living adequate for the health and well-being of himself and his family, and the right to food, clothing, housing, medical care, and all necessary social services. Furthermore, he is perfectly willing to subscribe to Article 28, which states that everyone is entitled to a social and international order in which the rights and freedoms set forth in this Declaration can be fully realized.

PERSONALLY, I think Doakes is entitled to all the historic rights, and he is entitled to all the social and economic aspirations for which he is willing to work. I do not subscribe to Captain John Smith's direction to the non-workers in the semi-communistic colony of Jamestown: that they could either work or starve; nor do I believe they should be treated like the drones in that perfect example of statism, the beehive—that is, when winter comes, the workers kill them off; but the measure of social security available to shirkers, or drones, should be a reasonable minimum, so they will have an opportunity to contrast what is available to the thrifty workers with that which a tolerant state provides for those who choose only the advantages and none of the disadvantages of living in a workaday world.

If and when the time comes when you and I are working for the government—not, as at present, an average of 83 days a year to pay our share of taxes, but full time, as in Russia—then we will be tremendously interested in some of these so-called "human rights" which have been slipped into the Declaration. When the voters go

to sleep at the polls, or get such an acute case of the "gimmies" that they turn the government over to the promisers; when private enterprise in medicine, engineering, business, law, and farming is abolished, then you and I, as subjects of an all-inclusive government, will doubtless hold up our hands and supplicate for more wages, a little dignity, and a little vacation with pay, calling them "rights" to which we are "entitled." Until that time, let us call these things "aspirations" for which we will struggle and work, individually and in association with others, until some measure of individual, family and group security has been attained. But let us not mistakenly call these aspirations "rights" which we may demand from the government and from others.

Activity Controlled

In a state which considers people merely subjects whose every activity is controlled—in effect, slaves of the government and the ruling oligarchy—matters that in a free state would be merely subjects for local legislative control or for free agreement between men, may be worthy of consideration as rights to be demanded against the government. But the complete answer to this is that the efforts of all men should be directed toward purging themselves of such tyrannical governments rather than to salvage some minor amenities under such a system.

THE goal for the individual must be self-development—to use the talents with which he has been endowed. The great law of life is the law of struggle, not the law of coasting or resting. Doctor friends of mine tell me that the baby who is not born struggling is born dead, and obviously the person who does not struggle through life neither develops nor gets anywhere. The successful parent, employer, or government, is the one that gives—not advantages nor security—but opportunity for self-development.

How does all this apply to the document about which I am talking? And what is there that we can do about it?

The Universal Declaration of Human Rights, I am glad to advise you, is not yet law in this country. It will be made law only when the various and sundry articles in it are adopted in treaty form. The Commission on Human Rights has for some time been engaged in drawing the treaty, which is called the Covenant on Human Rights. Most of the first twenty-one articles of the Declaration, those dealing with the historic rights we have mentioned, have been agreed upon and put in treaty form. With most of those we can heartily agree. In fact, they are the very rights which the consultants had in mind when at San Francisco they asked for the inclusion in the Charter of a program relating to human rights and fundamental freedoms and demanded the creation of a Commission on Human Rights to do something about it.

The Soviet delegation, which is opposed to any implementation or enforcement of those historic rights, is eagerly pressing for the inclusion in this treaty of the social and economic aspirations which they denominate "human rights." Since the United States will doubtless be the first to accept a treaty on human rights and make it the law of our land, and since no one has sufficient imagination to believe that any of these so-called social and economic rights will be demandable by any subject of the Soviets, we should view with the deepest suspicion the efforts of those whose continuing purpose is our present humiliation and our eventual destruction. If these so-called "rights" can be imposed as law upon us, agents and fellow-travelers will use them to stir up confusion, dissatisfaction, and—they hope—revolution among the ignorant and the unwary.

YOU will be pleased to know that a majority of the other members of the Human Rights Commission are going very slow at this time on including in the treaty, to be enforced as rights, these social and economic aspirations. At this very time these matters are being seriously considered by our government and the others, and the Human Rights Commission has requested the member governments by not later than early in 1950 to answer a questionnaire giving their views as to which, if any, of the social and economic aspirations (mis-called rights) should be included in the treaty and how these so-called "rights," if included in the treaty, are to be enforced. As citizens we have the great responsibility of choosing whether we will make our views on this matter known to our representatives in the Senate or whether we will stand idly by and let others formulate a treaty which, under our system, becomes the supreme law of the land.

Not To Be Mixed

I conclude as I began,—that rights and aspirations are both fine things, but mixing them in one document and calling them all rights, putting them in treaty form to be demandable against the world as laws, only adds to the confusion in which the world finds itself today. A study of the great fundamental documents of the ages and the writings of the true liberals of the past reveals that there is a touchstone by which we can test each so-called right that is presented to us for acceptance. High upon the walls of the Assembly of the United Nations, of Congress, of Parliament, and of every legislative body in the world should be written:

Man's fundamental right: The right to be let alone. Freedom from unjustifiable interference by the government is the fundamental right of every man.

Every proposed treaty, law, resolution, and even tax bill, before it is passed, should be submitted to the test of whether it is a reasonable and necessary interference with the fundamental right of free men to be let alone.

Commission of Human Rights of the UN Economics and Social Council. On the left is Mrs. F. D. Roosevelt, United States, Chairman.

Around The Nation With Our Members

Rathbun Of Nevada Is Dead

It is with regret that the Nevada Society of Professional Engineers announces the passing, Oct. 3rd last, of their Charter President, Frank D. Rathbun, Sr.

Mr. Rathbun was born in Rochester, New York on November 5th, 1876, where he received his early education. Later he attended Williston Academy and Massachusetts Institute of Technology from which he graduated in 1903.

He then went to Morenci, Arizona, as a Mining Engineer for the Phelps Dodge Copper Co. During the prolonged strike in 1915 he was employed by the St. Joseph Lead Co. at Flat River, Mo. as Division Engineer in Rivermines. After a year in the East he returned to Morenci, Arizona as Asst. Supt., Longfellow Division, for the Arizona Copper Co. During World War I he was made Supt. of the Metcalf Division of the Arizona Copper Co.

Later he moved to California where he was employed by the Southern California Edison Co. as Engineer in charge of the location of many high tension electric transmission lines.

For more than five years he was employed by the Metropolitan Water District of Southern California as Asst. Engineer and inspector in connection with the driving and concrete lining of the tunnels and concrete lining work of the open canal and the location and construction of the 230 K.V. electric transmission line from Boulder Dam to the Aqueduct Pump Lifts.

At the beginning of World War II he established his own Engineering business in Las Vegas, Nevada, in which he was assisted by his son Frank D. Rathbun, Jr. He devoted most of his time to lot and land surveys, and many subdivisions during and after the war were laid out by him, the recorded plats bearing his signature. He was currently registered as Civil Engineer in both Nevada and California.

During 1945 he was instrumental in the formation of an independent local society of registered professional engineers. In 1946 the Nevada Society of Professional Engineers was formed with Frank Rathbun as its President, its Charter being received that same year.

He is survived by his widow Mary G. Rathbun and his son, Frank Jr., also a member of NSPE.

Receive Charter . . .

In the picture above Orland C. Mayer, Vice President, NSPE, is shown presenting a National Charter to Walter H. Croft, President, Arizona SPE. The occasion was the First Annual Arizona Convention of Engineering Societies held at Phoenix.

After the presentation Mayer addressed the gathering which included members of ASCE, AIEE, ASME, and the Arizona Society.

William D. Williams, Vice President of ASPE, was NSPE's representative on the Joint Committee who arranged for the meeting.

Bronx Chapter Hears Byrne

Smoke Abatement in New York City was the subject of a lecture presented at a special open meeting of the Bronx County Chapter in December by William H. Byrne, a member of Kings County Chapter, who was appointed by the Mayor as temporary Director to organize the permanent Smoke Abatement Bureau in the Department of Housing and Buildings. He turned the "reins" over to the permanent organization on January 1, 1950.

New York Board Members Honored

At the annual meeting banquet of the National Council of State Boards of Engineering Examiners at Daytona Beach, Florida, distinguished service scrolls were presented to Dean Erich Hausmann and Dr. D. B. Steinman in recognition of their twenty years of outstanding service to the profession and to the public as members of the New York State Board of Engineering Examiners.

As the principal speaker at this banquet, Dr. Steinman delivered the keynote address on "Engineer's Registration—A Dream Come True."

Holm To Aid California Governor

Earl N. Holm, nominee for Vice President of the Western Area, NSPE, has been invited by Governor Earl Warren of California to participate in the "Governor's Conference on Employment."

"We are endeavoring to develop plans to prevent a widespread loss of employment due to the rapid migration to California." Holm said recently. "California is now the second largest State in the Union in population. It is increasing at the rate of 300,000 persons per year, or at 10,000 employables per month. Presently we are in no difficulties, but we must prevent unemployment in the future if planning can do so."

Illinois Group Meets

The Central Illinois Chapter of the Illinois Society of Professional Engineers held its first meeting of the 1949-50 season recently. There were 47 members and guests present.

The feature of the evening was a very interesting illustrated talk given by Mr. Henry Penn, District Engineer for the American Institute of Steel Construction. The large number of lantern slides contained a great deal of information concerning new methods now in use in the structural steel industry.

Presentation Meetings In Ohio

Certificate presentation meetings were outstanding affairs in Ohio recently when gatherings were held in Cleveland, Akron, Cincinnati, Columbus and Toledo.

The successful candidates, composed of the 999 out of 1153 who passed the examination, were invited by the Board of Registration to attend one of the five presentation meetings. About two-thirds of the certificates presented were Engineer-in-Training certificates. Thirty-four of the ones presented in the Cincinnati chapter were to former student-members of the University of Cincinnati Student-Chapter of the Ohio Society of Professional Engineers.

In the photos above taken at the Cincinnati meeting, Miss Mary E. Fulmer, (left) International Falls, Minn., Chemical Engineer for the United States Public Health Service, receives her certificate from W. W. Graf, State Board of Registration. Other photo shows Ohio SPE officials. They are, from l. to r., J. G. Martin, Past Pres., Cincinnati Chapter; Jay Bouwman, V. P., Cincinnati Chapter; Walter Graf, State Board of Registration; C. A. Joerger, Dean—Evening College, U. of Cincinnati; E. H. Fox, Master of Ceremonies; R. A. Colado, President, Cincinnati Chapter; and M. C. Olsen, President, Dayton Chapter.

MIT Educator At Boston Meet

Dr. Warren K. Lewis, emeritus professor of chemical engineering at Massachusetts Institute of Technology, said that the engineering profession must contribute to the solution of sociological problems caused by the tremendous economic expansion that has occurred in this country.

Dr. Lewis spoke at a dinner meeting of the Metropolitan Chapter of the Massachusetts Society of Professional Engineers attended by 100 persons at the City Club. In his speech he pointed out the importance of the engineer's contribution to the historic and economic development of society.

Engineers Told Of Plant Needs

At a recent meeting of the New York Chapter, NYSSPE, Mr. Robert P. Ulin of the Economics Department of McGraw-Hill Publishing Company spoke on the topic "Business Needs for New Plants and Equipment."

Mr. Ulin stressed the need for modernization of plants in all types of industry, particularly steel and metal processing plants. To replace the obsolete manufacturing facilities of private industry with new, efficient tools and equipment will require an expenditure of one hundred billion dollars, estimated Mr. Ulin.

Normally, continued Mr. Ulin, private industry should be able to replace worn-out equipment out of corporate profits but the present tax structure leaves little margin for modernization. During the next year, it is expected that decreased profits will further handicap the process of replacing obsolete inefficient machinery.

Ohio Members Hear About Water Program

Dayton, O., chapter members held a joint meeting with the Izaak Walton league to hear about the five-point plan to clean up stream pollution. The program was presented to the engineers and sportsmen by Kenneth Watson, assistant director of the Ohio River Valley Water Sanitation Commission.

Watson urged the following program after explaining the eight-state pact to help clean up all the rivers of the Ohio basin:

1. Insist that the city in which you live provide sewage treatment.

2. Understand that sewage treatment will cost you something and reach a decision that such a cost is justified in raising your health and living standards.

3. Insist that industries with which you are connected provide necessary waste recovery and treatment.

4. Interest your clubs in promoting clean streams and by this means a more scenic and sanitary way of life.

5. Demand your state and interstate pollution control agencies be adequately financed and staffed and support those agencies particularly in cases where cooperative efforts fail and it becomes necessary to force the installation of waste treatment facilities by due process of law.

Watson's significant closing statement was, "In closing I would like to suggest that the pollution of surface water has become so serious and it directly affects so many people that we as individuals should become indignant and demand action be taken to protect this valuable natural resource."

ECA Engineers Visit Ohio

Members of a French machine tool and metal working machinery manufacturing delegation were entertained recently at the University of Cincinnati, where they heard talks by Dean A. C. Joerger and Professor H. C. Messinger.

The Frenchmen, in this country under auspices of the technical assistance program of the Economic Cooperation Administration (ECA), were briefed on details of the noted UC plan of co-operative technological training.

The French delegation is visiting Cincinnati to learn why it is known as the world's machine-tool center and to find ways of improving and increasing French productivity in their field.

Shown above are (l. to r.) James H. Howard, recently elected president of the San Jacinto Chapter, Texas SPE, and fellow chapter member F. J. Niven. Both are from Houston.

Here are the men who gathered recently to honor the outstanding work accomplished by Harry H. Cordes, Capital Chapter, ISPE, Membership Chairman. The engineers are identified below.

Engineer's Role Presented At Exposition

The professional engineer's role in construction was graphically presented in models and photographs at the Houston Construction Industries Exposition by the San Jacinto Chapter recently.

Telling the story of the "man behind the building" was the theme adopted by the San Jac committee, headed by Francis J. Niven, which planned the engineers' exhibit. Every branch of membership in the chapter had models, drawings and photographs to illustrate the engineer's part in the huge construction industry at the show.

"We will attempt to educate the public on the work of our professional engineers — the mechanical, civil, electrical, chemical, structural, architectural and other types," Mr. Nivens said on the eve of the show's opening.

Progress Talk Given In Minn.

The Engineers' Club of Northern Minnesota initiated its fall program with a meeting held at the Elks' Club at Eveleth, Minnesota.

The feature of the meeting was a talk by Mr. Vern S. Peterson, Manager of the Midwest District of the Extension Division of E. I. DuPont de Nemours and Company. He spoke on "Preview of Progress." Mr. Peterson is widely known throughout the Midwest as a speaker on chemical advancement. His address was received with keen interest.

Arrangements for the meeting were handled by Mr. T. C. Thielman, Director of the club for the Eastern District.

W. Virginians Hear Lawyer

A combined meeting of the Charleston, W. Va., Chapter and the Huntington Chapter was held at Huntington recently. The attendance was 47, of which 20 were from Charleston, 24 from Huntington, and three guests: J. Hornor Davis, Don Baker, and W. C. Campbell.

A short sociable period was followed by a turkey dinner, and the meeting was opened by Paul G. Davis, President of the Huntington Chapter.

Ross B. Johnston, State Secretary, spoke briefly on the proposed legislation concerning N.S.P.E. Membership, and emphasized the importance of members expressing their wishes on all matters submitted to ballot.

Robert B. Williamson, a native of Huntington and candidate for State President, recalled instances of his youth and cited many "firsts" in the engineering history of Huntington. Mr. Williamson also mentioned the many reciprocal benefits of combined State and N.S.P.E. Membership.

J. V. Karrick, President of the Charleston Chapter, expressed the numerous advantages of inter-chapter relations and introduced the speaker of the evening, J. Hornor Davis, Charleston attorney and legislator, who spoke on West Virginia laws and their relation to the engineering profession.

Mr. Davis said that engineers are affected by all the laws in general and the laws of our profession in particular, then he gave a very interesting summary and outline of our system of laws in West Virginia and the procedure of our legislative bodies.

A very detailed outline was presented about the correct procedure to follow to successfully pass a bill from its first draft until it became a law.

Cordes Honored For Membership Activities

At a recent meeting of the Capital Chapter, Illinois SPE, the entire evening was devoted to the recognition of accomplishments of Chapter Membership Chairman Harry H. Cordes.

The picture above includes all the ISPE State officers, many of the Chapter officers, and three prominent guests who were in attendance. They are, l. to r., back row, D. S. Magowan, Past President, Chicago Chapter, ISPE; P. E. Roberts, Field Secretary, ISPE; A. M. Frost, President, Capital Chapter; G. E. Sangster, Sangamon County Sub-section, AIEE; G. E. Ekblaw, Vice-President, ISPE; A. D. Spicer, State Membership Chairman, ISPE.

In the front row: C. M. Hathaway, Chief Engineer, Illinois Division of State Highways; William Sherwood, Instructor, Capital Chapter Refresher Course; J. M. Whelan, President, ISPE; H. E. Babbitt, Secretary-Treasurer, ISPE; H. H. Cordes, Capital Chapter Membership Chairman.

New Yorkers Hear State Officials

At a Dinner Meeting held at the Engineers Club in New York City, further plans were outlined for continued cooperation between the New York State Society, the State Education Department, the Attorney General's Department and the Board of Examiners.

One of the many important subjects concerned the presentation by the Board of Examiners of professional engineering certificates to newly licensed engineers at meetings held by the State Society. Under this procedure, all newly licensed professional

engineers would start their careers at a State Society meeting.

James Malaney, Executive Secretary of Professional Conduct in the State Education Department, discussed methods of handling violations of our professional engineering laws. It was agreed that cases should be handled at chapter levels informally through personal contact, but when this fails the matter should then be referred to the State Society for action.

Sidney Tartikoff, Assistant Attorney General in Charge of Education Bureau, discussed the excellence of our newly acquired injunction (or injunctive-check) relief measure. Elbert H. Bancker, P.E., spoke about the State Society legislative program.

Dr. Irwin A. Conroe, Assistant Commissioner for Professional Education in the State Education Department, summarized the educational and legal problems involved in our professional development. He once again offered the full cooperation of his Department, which has been so consistently helpful in the past.

Ga. Chapter Visits Mills

Georgia's Northwest Chapter met recently at the Trion Mills for an inspection trip through one of the largest cotton mills in the South. Before starting the tour they were conducted through the first of three units of new grammar school buildings. This building was constructed of brick, glass brick, tile floors and walls, specially constructed tables and chairs of hardwood. Each classroom has also play and work areas, toilets and individual lockers. The lighting is modern fixtures with fluorescent tubes. The heating is modern, utilizing steam-heated air. The tour through the mill itself was interesting, particularly to those that had not seen colored prints manufactured.

This meeting was held at Trion principally in order to reach Engineers in the vicinity and also to have as special guests members of the Chattanooga Chapter of the Tennessee Society of Professional Engineers. These guests included: Robert A. Merrill, President of the Tennessee Society of Professional Engineers; Walter W. Coleman, President of the Chattanooga Chapter, TSPE, and George Campbell, State Secretary, TSPE. Other engineers from the Tennessee Area were: Arthur Jones, C. L. Ridings, E. F. Chobot, R. S. Bicknell, Alfred Stone, A. F. Hedman, W. J. Funk, Howard Callaway, James Frank Steffner, James Corlew, Geo. Morton, and Clair Smith. Other local guests from Georgia were: Julian Keith, H. M. Woodard, H. H. Boggus, J. T. Morgan, J. S. Morris, A. W. Whitlow, Arthur Lowery, and Ben S. Lowry.

Brooklyn Cites C. W. Mitchell

Charles W. Mitchell, one of the most widely known members of the electrical industry in New York City, was honored recently as "The Engineer of the Month," by the Brooklyn Engineers Club.

Mitchell is President and Treasurer of the Acme Fire Alarm Co., Inc., a licensed professional engineer in New York and New Jersey and an authority on electrical systems for the protection of life and property from fire. He is also President of Kings County Chapter of the NYSSPE, and is Past President of the Association of Electrical Construction Engineers.

He is a pioneer in the development, engineering, design, manufacture and installation of all types of electrical systems for the protection of life and property from fire hazards. He developed nearly all of the 120 volt closed circuit electrically supervised fire alarm systems now in use.

From 1908 to 1913, he was in charge of electrical maintenance of all Brooklyn public schools, and from 1913 to 1916 he was in charge of the Fire Prevention Bureau of the N. Y. Fire Department, responsible for enforcing all the laws, rules and regulations pertaining to interior fire alarm signaling systems, sprinkler alarms, stand-pipe alarms, the institution of fire drills and fire brigades and the abatement of electrical fire hazards throughout the entire City of New York.

From 1911 to 1919 he taught Electrical Installation and Practice and Applied Electricity in the Brooklyn Evening Technical High School.

In addition to his manufacturing company, he is a consulting engineer

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New Missouri Chapter May Be Organized

Forty-three engineers and guests recently met near Chillicothe to explore the possibilities of reorganizing and reviving the North Missouri Chapter.

For many years the North Missouri Chapter had been an active part of the State Society and many of its members had contributed generously to the building of an organization that could promote the economic and professional interests of engineers. The Chapter has been inactive during 1948 and 1949. Distances between towns where members lived made it difficult for regular chapter meetings to be held.

A social hour and dinner occupied first part of the meeting. Engineers from many communities in the North half of the State had come to offer their support in any effort that might be made for a professional society chapter to be reestablished in the area. Among the engineers in attendance were some officers and directors of the State Society. These were R. E. Riddle, Sr., Dean Wilson, and Leonard J. Linde. Other MSPE members from outside the chapter area were C. P. Owens and O. D. Schmidt.

Mr. Frank Graham of Chillicothe acted as temporary chairman of the meeting. Mr. Graham expressed his views as to the importance of reorganizing the chapter and again becoming an active unit in the Society. He called for a vote as to whether or not the engineers in the area favored reorganization of the chapter. Members and former members and other engineers in the area voted overwhelmingly in favor of re-forming.

New officers elected were: Harold Vasey, Brookfield, President; Earl McKee, Macon, Vice-President; J. F. Duncan, Brookfield, Secretary-Treasurer; Oren J. Lamb, Macon, Regional Director; for chapter directors, Lloyd M. Banta, Frank Graham, C. T. Botsford, and Ben Leslie.

Minnesota Notes

District 1 had 14 members at a meeting at Austin with President Fairbanks presiding. Tom Wall reported on the activities of the State Military Affairs Committee. It was voted to observe the week beginning February 22 as Engineers Week. It was voted to invite S. L. Stolte to attend the December meeting to take part in discussion of changing MAPE to "Society."

This district also met with the Red Wing Technical Society Nov. 7. Guests included junior college engineering students from Rochester Junior College, Executive Secretary Price, National Director T. S. Thompson and Professor Ryan from the University. Some 75 men attended. Following dinner there was a tour of the new $5,000,000 NSP plant which will be in operation within two months.

District 2 had 28 at its recent meeting at Mankato. The group passed a motion to request reconsideration by the State Civil Service Board of the compensation for CE 1, 2, 3, and 4. The following were named to a Nominating committee: Messrs. Quarve, Deegan, Anderson, Setterlund and Gaylord. The group heard a report on lignite development in the Dakotas.

District 4 and 5 had a joint meeting on the University of Minnesota campus. Some 80 members turned out for dinner and a tour of the new Mechanical-Aeronautical building. Professors Rowley and Akerman gave the men details on the building, which is said to be the most complete of its kind

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Budget—Russell B. Allen, University of Maryland, 4610 Hartwick Road, College Park, Md.

Chapter Activities—George J. Nicastro, 200 Madison ave., New York, N. Y.

Constitution and Bylaws—S. L. Stolte, 1437 Marshall ave., St. Paul, Minn.

Education — Dean Curtis L. Wilson, University of Missouri School of Mines and Metallurgy, Rolla, Mo.

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International Relations—Lawrence E. Peterson, 321 E. Wisconsin ave., Milwaukee 2, Wis.

Inter-Society Relations—James F. Fairman, 4 Irving Place, New York 3, N. Y.

Legislative — T. C. Forrest, Praetorian Bldg., Dallas 1, Texas.

Membership — C. G. Roush, 101 W. Eleventh st., Kansas City 6, Mo.

Military Affairs—Col. W. A. Hardenbergh, 310 E. 45th st., New York 17, N. Y.

Nominating—W. A. Oliver, 402 Engineering Hall, Urbana, Ill.

Publications—C. George Krueger, 28 Cross Gates Road, Madison, N. J.

Public Relations — Frank W. Chappell, 312 Burt Bldg., Dallas, Tex.

Registration — C. L. Svensen, 905 W. 29th st., Austin, Tex.

Relations with Land Surveyors —Frank C. Mirgain, Department of Civil Engineering, Cooper Union, Cooper Square, New York 3, N. Y.

Resolutions — L. L. Dresser, Box 2518, Tulsa, Okla.

Young Engineers—William F. Ryan, Stone and Webster, 49 Federal st., Boston, Mass.

Schedule of Fees and Salaries —Ole Singstad, 15 Whitehall st., New York 4, N. Y.

in the country.

District 7 was to hear MAPE President Peterson at a meeting at Redwood Falls.

Lady Joins Harrisburg Chapter

Engineering is regarded as a man's profession. It is an exact science with very little appeal to women. That's why the Harrisburg Chapter, Pennsylvania SPE, is proud to welcome as a member, Miss Doris Mary Raub of Wilkes-Barre.

Miss Raub was graduated from Bucknell University in June, 1948, with a B.S. Degree in Civil Engineering. She was granted registration as an Engineer-in-Training on September 24, 1948, and is now employed in the Bridge Engineering Department of Highways. Miss Raub was sponsored by Engineer Reinhold W. Arner.

The first woman to be registered as a professional Engineer in Pennsylvania is Mrs. J. Carlin of Philadelphia, who was registered 20 years ago. The second is Mrs. R. Blaylock of Philadelphia, and the third, Mrs. Phyllis N. Redcay, formerly a member of the Harrisburg Chapter, but now a resident of the Republic of Panama.

Exams Debated By I.S.P.E.

A regular meeting of the Madison County Chapter, I.S.P.E., was held recently.

Mr. Voorhees, president, explained the efforts of the Society to help organize a refresher course for engineers wishing to take the professional engineers exam. Mr. Frank Hollis expressed his opinion that it is unfair to require men of long experience and proven ability to submit to examination. He felt that oral examination and

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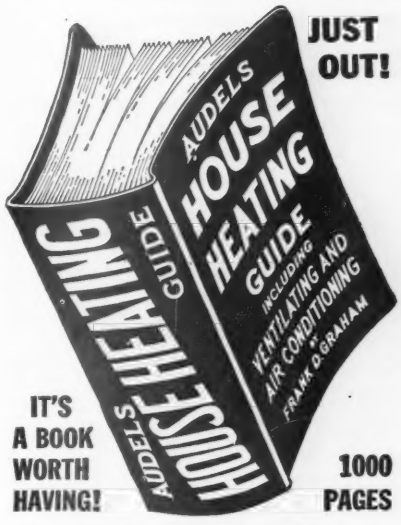

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Mr. Voorhees informed the chapter that its bond quota had not been met and that more subscriptions must be had in order to place the Society activities in step with the needs.

Mr. Hollis of the Conservation Committee introduced Mr. Malony who is in charge of public relations of the State Department of Conservation. Mr. Malony talked on game conservation, lake programs, and showed films of bird life.

U. of Missouri Students Meet

The Missouri School of Mines Chapter of MSPE held its first meeting of the year recently, with the following named men elected to hold office for the forthcoming year.

President, Warren E. Hagan; Vice President, Frank Wyatt; Secretary, Bruce Miller; Treasurer, H. T. Arnold; State Associate Directors, R. J. George and Cecil Hollingsworth; Faculty Advisors, Professor Carlton, Professor Walsh, and Professor Schooler.

In addition, Professor Carlton gave a very interesting and informative talk on "Professionalism."

The object of the Missouri Society of Professional Engineers is to encourage the unification of the engineering profession by stimulating cooperation between student chapters of technical societies, and to promote registration of graduate engineers.

The next meeting of MSPE will be held as a joint meeting of the Rolla Chapter and the Student Chapter. R. E. Riddle, President FSPE and Clifford Wood, Executive Secretary, will be on hand to answer any questions students may have concerning MSPE and registration.

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(*Continued from page* 11)

tins, the House has passed a revised social security law and the Senate is expected to act upon the bill next year. Of major interest to the profession is the provision to extend the social security system to the self-employed. In the bill passed by the House, self-employed is added, but excluded from that coverage are certain professional groups including by name, aeronautical, chemical, civil, electrical, mechanical, and mining engineers. Thus the engineering profession would be half in and half out. We feel that this is a most unsatisfactory arrangement and is administratively unsound as well as detrimental to the engineering profession to be thus splinterized. The Legislative Committee believes that all self-employed engineers should be covered or not covered.

Policy On Armed Forces

The following Statement of Policy drawn by the Armed Forces Committee was approved by the Board. It concerns itself with the proposed reorganization of the Army as outlined in bills now in Congress.

1. The NSPE is vitally interested in those factors that affect the quality of the Engineering Services of the Army. The recent war demonstrated that a corps of skilled professional engineers, competently led, is indispensable to a successful Army.

2. The NSPE believes that essential factors in developing a scientific and professional group capable of solving the problems that may face the Army in future emergencies, include: (a) the procurement of highly qualified young engineering officers; and (b) the development of their abilities and spirit by a properly controlled career training program. The Army needs and should have the best professional talent. To attract and to retain and develop such talent, the engineering services must be established and operated on a professional basis.

3. In order to provide this basis on which to create and maintain a highly effective engineering organization, statutory provisions are necessary. There should be inserted in the Army Reorganization Act, a requirement that professional engineering skills shall be utilized and required which are comparable to those employed in civilian life for similar work.

4. The NSPE therefore, recommends and urges that there be inserted in the forthcoming Army legislation a basic provision authorizing the establishment of suitable standards of education, training and experience for officers charged with professional engineering and scientific duties.

On Public Relations

It was recommended by the Public Relations Committee and approved by the Board that Engineers' Week be celebrated throughout that week in which February 22 falls. The date was selected, of course, to honor George Washington, soldier, statesman, and engineer.

The Committee was unanimous in support of the Thompson Report. This so-called "Blueprint For Action," it was stated, will tell the citizens of the Nation the "Story of Engineering." "In this day of high-powered publicity and propaganda," the Committee Report said "the modest, shrinking violet is apt to get left behind. Whatever it is that we want—more members, more recognition, better laws affecting engineers, higher compensation, or anything else—we can get it quicker, easier and more certainly if we can tell the people of the country —and that includes members of our Society and all other engineers, registered or not,—'The Story of Engineering.' Do this and the rest will follow naturally." Because of budgetary limitations the full scope of the Thompson Report cannot be implemented at this time, it was pointed out. However, to the greatest extent possible the recommendations will be put into effect.

Ethical Practices

As a guide on general policy concerning relations between the engineering and architectural professions, the Ethical Practices Committee proposes that NSPE recommend to the Member State Societies:

1. That no revision to a registration act, building code or ordinance be promulgated by a member State or Local Society without consultation with the appropriate State or Local Society of Architects.

2. That State Architectural Societies be invited to participate in studies leading to the development of: (a) uniformity of schedules of fees for professional services, and (b) a schedule of fees to be charged when one profession does work for the other.

3. That State Architectural Societies be invited to collaborate in the development of a Statement of General Policy defining the types of work to be handled by each of the professions, as a guide to the members of the respective Societies.

4. That State and Local Societies be urged to include an Architect as a speaker at one of their meetings each year.

5. That the officers of State and Local Architectural Societies be invited to the Conventions or Annual Meetings of our Societies.

Minneapolis Gets '51 Meeting

After considering invitations from several state Societies throughout the country, Minneapolis was selected as the location of the 1951 Annual Meeting of NSPE. The Minnesota invitation was extended by Vice President S. L. Stolte.

Oscar Koch, outgoing president of TSPE, conducts a session of the Texas group.

(*Continued from page* 20)

series of papers discussing, among other subjects, the status of licensing, and the most effective training programs carried on by employing industries. The Committee will place emphasis on extending aid to engineering graduates preparing for registration and, above everything, upon the continuation of the engineer's formal training during employment in industry. Particular attention will be given to industry's contributions in this field and to continual self-appraisal by the individual himself of his past accomplishment and of his prospects for future growth.

Professional Recognition

In the year just concluded ECPD has approved the report of its Committee on Professional Recognition recommending the adoption of uniform nomenclature in designating the several grades of membership in the constituent societies and the establishment of minimum standards for admission to the respective grades. In the application of these standards it should be noted that licensing of engineers by State Boards of Engineering Examiners is recognized and provision made for its evaluation. Before adoption by ECPD, these recommendations were thoroughly discussed in two conferences at which the constituent societies were represented by delegates chosen as particularly qualified to speak authoritatively for their respective societies.

There remains the task of obtaining concerted action on this recommendation by the six supporting societies to which it is applicable and its later adoption by other qualified engineering societies through the effect of persuasion inherent in the establishment of any valid standard of this character.

Principles of Engineering Ethics

The Canons of Ethics for Engineers have been adopted by five of the eight sponsoring societies of ECPD, and have been incorporated in the constitutions and by-laws of several of these. Two others of the supporting societies have endorsed the Canons, while one has thus far taken no action in this respect.

In the meantime, however, fifty-six other engineering societies have by formal action adopted the Canons, in many cases having effected constitutional amendments for that purpose.

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